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 AGAGGAAGCATATGCAGTGAAGAAATATCTCATCAACTAAGGTGGACCTGTGGCAGCCAGCATATCTCCTA  
 TGATCAGAGGGAACAGTACTGATGTCATATCCCAAAATGGTTCCCGAGCCCTGTAGCCTCTTACAGGA  
 AGCCAATCCAGTACAAGGTCCTATAGAAGATCTTCAGAAACATCTGGGAAGGGAAGCAGCTTGCACACCC  
 AGAAMACCGAAGTCCCTCTGGGATAAATTATGAAGTTTCTCACTCTAGAGAAATTCMAAATTGATGTCGA  
 TCATCTGAATAAACCTCACTCAGGCCCTATTCACATGTTCTCTATTGAAGATCATATGAGGGAAGATGCTTTT  
 ATTTAAAGCTGGGACAGCATCAGCACTCAAAAGAGCTGTTTGATAGACTGTGGTATTCATGCAAGAGAATGG  
 ATTGGTCTGCTCTTGTCTAGTGGTTGTAAAGAAAGCTCTTAACATATAAGAGTACCCTGATGAGAAAA  
 TTTTGGAGAAACAAAGGTCAGGAAGCTCAAGGTTTCGCTGCGTGGAGTGGATGCCAATAGAACTGGAAAGT  
 TGCTGAATCATCTATTTCTATATCATGCTGTGTTTAACTGCGATGGATACCATTTTAGTTGGACCAATGATCGA  
 TTTTGGAGAAACAAAGGTCAGGAAGCTCAAGGTTTCGCTGCGTGGAGTGGATGCCAATAGAACTGGAAAGT  
 GAAGTGGTGGTAAAGTTTGGGACCAACTGGGATCCAGATCCAAAGGTTTCTGCAGGTTTACTCTGCAAAATAT  
 GAGTCCAGAGGACTCTCATGGGAGACTCATGTTTTTCTGTATGTGA

FIG. 1A

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 ATGAAGCCTCTGCTTGAACCCCTTATCTTTTGGGGATGCTGGTCTCCTGGAGGGCTGGGATATGATAGATCCTTA  
 GCCAACACAGACAGAGATTGTGGACAAGTCAGTGAGTCTCATGGAGCCTGGAGAGCTATCTCTATAACATATAC  
 CACCCTATGGGAGAGATCTATGAGTGGATGAGAGAGTCAAGTGAAGTACAAGGAAGTGGTGACACAGCATTT  
 CCTAGAGTGACCTATGAGACCCACCCATGTTATCTGAAGATCAGCCACCACTCTGGTAAATCCCAAGAAAAAT  
 CATTTGGATGGACTGTGGAATTCAGCCAGAGAATGGATTGCTCCTGCTTTTGGCCAATGGTTCGTCAAAGAAAT  
 TCTACAAACCATTAAGACAACCTCAAGTATACGCAAGCTCTTAGGAACCTGGACTTCATGTCTTCCAGTTCTT  
 AACATAGATGGTATATCTACACTTGGACAACCTGACTGCTTTGGAGAAATCCGTTCCACCCCAATAAATGGCA  
 CATGTTTTGGGAGGATCTCAATCGAAATTTCAATGCATCTTGGTGAAGTATGGTCCCTCTAGAACTGCCAAGA  
 TCAAAACATCTGTGGGACAGGCCAGTGTCTGAACAGAGACTAAAGCTGTTGCCAGCTTCATAGAGAGCAAGA  
 AGGATGATATTTGTGCTTCTGACCATGCACTCTATGGGCAAGTAACTCTCACACCTTACGGCTACACCAAAA  
 TAAATCAACCAACCCAGAAATGATTCGAAGTGGAGAGCAAAATGCTTGAAGCAAAAGTATGGGAAC  
 CAATTATAGAGTTGGATCGAGTGCAGATATTTATATGCCCTCATCAGGCTTCTCAAGAGATTTGGCCCGAGACAT  
 TGGGATTCCTCTCATATACGTTTAGCTGAGGACAGTGGAAACATATGGGTTTGTCTGCCAAGAGCTCAGAT  
 CCGACCCACCTGTGAGGAGACATGGAGCTGTGCTGAGTCCGAGTGAATGTGATGCGGAACACTGGCACT  
 CGGAGACCTGTGGAAGGGTGACATCTGCCACTATGCTGCTGGGCTGCTGGTGTGCTGCTCTTCTCTAA

FIG. 1B

>SGPR404\_SEQID\_3  
 ATGGTGAGCAATTGACAGCCACACGTGGTCACTGTTAAGAAATGGATCTGGAGACATGATATTTGAGGGAAACAG  
 TGAGAGGAGATCCCTGTTCTCAATGAGTACCCGTCCTCCATGCTGGCCGCTACATCGGATAAACCCCTCAGT  
 CCTGGTTTGATAATGGGAGCATCTGCTATGAGAAATGGAGATCTGGGCTGCCACTGCCAGATCCTATAATATT  
 ATCACCCGGAAACGAGATGACACCACTGATGACCTGGATTAAAGTAAAGCAATTAAGGAAATGGCCAGT  
 TGATGAAGTTGTAATGAATGTCTCCCAATATCACAGAAATTTACAACATTTGGAANAACCCACAGGCGCTGA  
 AGCTGATGCTGTGGAGATCTCAGATCACCTGGGGAGATGAAGTGGTGAAGCCGATTCACACTACATCGCG  
 GGGGCCACGCAATGAGGTGCTGGGCCGGAGCTGCTGCTGCTGCTGGTGCGAGTTGCTGTGCAGGAGTAC  
 TTGGCCCGGAATTCGCGCAATCTGTCACCTGCTGGAGGACGGGATTCACGCTCTCCCTCCCTCAACCCG  
 TGGCTACGAGAAGGCTACGAGGGGCTCGAGCTGGAGCTGGAGCTGGTCCGTCGGACGCTGGACCCACGATG  
 GAAATGACATCAACAAACCTTCTGATTTAAACACGCTGCTGGGAGGAGAGATCGACAGAATGTCCTCCCA  
 GGAAAGTTCCCAATCACTATATGCAATCCCTGAGTGGTTTCTGTCGGAAATGCCCAGGTGGCTGCCGAGACC  
 AGAGCAGTCTAGCTGATGGAATAATCCCTTTTGTCTGGCGGGCAACCTGCAGGGGGGGGAGCTGGTGG  
 TGGCGTACCCCTACGACCTGGTGGCGTCCCTTGAAGACGACGAGGAACACCCCCACCCCGACGACACGCT  
 GTTCCGCTGGCTGGCTACTCCTATGCCTCCACACACCGCCTCATGACAGACCCCGGAGGAGGCTGGCCAC  
 ACGGAGACTTCCAGAAAGGAGGCGACTGTCAATGGGGCCCTCTGGACACCGTCCGCTGGAAGTCTGAAGC  
 ATTTTCAGCTACCTTCATACAACTGCTTCGAACTGTCCATCTACGTGGCTGTATAATACCCACATGAGAGCC  
 AGCTGCCGAGGAGTGGGAGAAATACCGGGAACTCTGATCGTGTTCATGAGCAGGTTTCATCGTGGCATTA  
 GGCCTTGAGAGATTACATGGAAAAGGAATCCCAACGCCATTATCTCCGTAGAAGGCATTAAACCATGACATC  
 CGAACGCCAACGATGGGATTACTGGGCTCCTGAAACCTGGAGAGTATGTGTCACAGCAAAAGGCCGAAG  
 GTTTCACCTGCATCCACCAAGAACTGTATGTTGGCTATGACATGGGGGCCACAGGTTGACITTCACACTTAGCA  
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 GCTGAAGCTGCGGGGGCGGAAGACGACAGCGGTGGGTGA

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 GTGCTGGGCGCCGGAGCTAGCACCCGGGTCTGCACCTCGGGGCATCCGGGACCGGGAGGCCGCTACTGC  
 CAGGAGCAGGACTGTGCTGCCGGCGCTGCCGACGACTTGCCCTGCCCTACCTGGGGCGCATCTGTACT  
 GTGACCTCTTCTGCAACCGCACGGTCTCCGACTGCTGCCCTGACTCTTGGGACTTCTGCGCTCGGCGTGGCCACC  
 CCTTTTCCCGGATCCGAAGATGTGATGATCGAGGTGATATATACGATTTGGGAACGCTACTGGGAACAACCTGT  
 AACCTGACCTGCCAGGAGAACGAGTGGCAGTGCATCAAGAACCTTGCCTGGTGGATCCGACATGA  
 TCAAAGCCATCAACCCAGGGCAACTATGGCTGGCAGGCTGGGAACCCACAGCGCCTTCTGGGGGCATGACCCCTGGA

TGAGGGCAATTCGCTACCGCCTGGGCACCATCCGCCCATCTTCCCTCGGTGTCATGAACATGCATGAATAATTTATACAGT  
 GCTGAACCCAGGGAGGTGCTTCCACAGCCTTCGAGGCTCTGAGAGTGGCCCAACCTGATTCTTAGCCTC  
 CTTGACCAAGGCAACTGTGCAGGCTCTGGGCCCTTCTGCCACAGCAGTGTGGCATCCGATCCGATCGTGTCTCATCCCA  
 TTCTCTGGACACATGACGCTGTCTGTGCGCCCAAGAACCTGCTGTCTTGACACCCACACGACGACGAGGCT  
 GCGCGGTGGCGTCTCGATGGTGGCTGGTGGTTCCTCGCTGCCGAGGGGTGGTGTCTGACCACTGCTACCC  
 CCTTCTGGGCGGTGAACGAGAGGCTGGCCCTGCGGCCCTGTATGATGCACACGCGAGGCATGGGTCTG  
 GCGCAAGCGCCAGCCCACTGCCCTGCCCAACAGCTATGTTAATACAGTGTGATGATACCATCCAGGTCACCTCTG  
 TCTACCCCTCGGCTCCAAACAGAGGATCATGAGGAGCTGATGGAGAATGSCCCTGTCCAGSCCCTCATG  
 GAGTGTGATGAGGACTTCTCTATCAAGGGAGGCATCTACAGCCACACGCCAGTGAGCTTGGGAGGGCCAG  
 AGAGATCCCGCGCATGGGACCCACTCAGTCAAGATCACAGGATGGGAGAGGAGACGCTGCCAGATGGAAG  
 GAGCTCAAAATCTGAGCTGCGGCCAACTCTCTGGGGCCAGCCTGGGCGGAGAGGGGCCACTTCGCGATCGT  
 GCGCGCGCTCAATGAGTCCGACATCGAGAGCTTCGTGCTGGGCGTCTGGGGCCGCGGTGGGCATGGAGACAT  
 GGGTCACTACCTGA

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ATGTGCGAGAACTGCGGAGACCTGGTGGAGGTGTTAAATGAATATGAGATGTAGAAGGTGGTGATGGACTGCA  
 GCTCAGAAAGGAACATACTCTCAAAATATTTACTATACATAATCTCGACACAGAGGCAATGTCTATGCTGCTTC  
 AAGGAATATAGCATTTGGAGATTTTAACTAAGTAGTGTGTGCACCTTATTAACCTAGTATGGCCCAAGTTCAAGT  
 GCTCGGGACCACTTTGTAACATTGTACTACCATTAACTAGATTCACGCTGGCAAGATGAGAGTAATCAAGC  
 AGAAGCACTGAATATAGATAGAGAGTGAATGAAGGAGTACAGAAAGACAAAAATCAATAGAAAAAATCA  
 AACTCTACAAGAAATTTGTAATCTGACTGAGGAGGAATCTTCAAAGAGTCTGATCCTTTAGTTTATGGAGTACAG  
 ATGAGAGGAAAACTCTACTATGTGTGGCAAAATTTTCAAAATTCAGTTTCCCTTATATCTGCTTACAGCAT  
 AATACTACCCCTACTATTTGGGATATATCAACTCAAGAAAGTAACATTTAGGGGCATTTCTGTATGAATGATG  
 TAGAAGTACCATTCGATTTCTGTTATGTATGTTGTTTGTGGGAAAAATGGCCCTTCTCTCATGAAGGATTG  
 CTTTGAATATGGAATCTGAACTTTGCCATTTCTATAGCACATGCCGTTTATACAGTTGTGTCTAATATTAGAA  
 TATGCTACATATCCCCGCTGATGCGACATATATACCTTTTAGGACCTATGTTATTAGGATTTATGCGAAGT  
 CTCGGATCAGAGTTAGCAGAGTGCAGCTGTACATGGCTGACTTAAATGTGGGACACAGTCAAGAACCCT  
 TGGATCAACAATTTAGTTGATTAAGAAAGCCGTAGATCTGCAATTAAGTACTTTTATGTCACTACTTTTGACTATG  
 AGGTTGGCTGGATTGATCAGATAACAAATCAACTCCATACCTTCAATGATGTGTGCAATAATGAATCAATTAGTAT  
 CGGACACAGAAACGTCATTTGAAAGACACTTGCAGACTGGCTTTATGACAAATGTGGTGGAGCATATTTG  
 GACCAAAATTTACATATTGAGATTACAAACAGTGCAGAGTATTTGAAATTTTTTGGCAGAGAGGGCGACTGAG  
 TACTCAACATATTGACTGATTTTGGGCTGCAGACAGTTGAACATTTAGTCGGTATATACATGACTTATTTCTT

FIG. 1C

FIG. 1D

CACTCATCAAGAAATTTGGATCCCGTACCACCTTAGACATCTACTTAATCTGGTCTCAGCTCTTGAGCCAAAGTGTTCA  
 TAGTGAACAGACAGCTTACTTGGCATCCATGTTAAATTAAGAGCTTGGAAATACGCATAGCAGTAAGAGCTCA  
 GTTATCTAAACAGAGTCTTTTGCATCTTTTAAATACTAATATCCCAATTTGGAATAGAAAGGAGGAAAGAGC  
 TTAGAAGACAGCTCCATCAGCTTGGTCATCTGCAGCTAGTCTCTCAAGCAGTGATAATAGCGATACACATCAAA  
 GTGGAGGTAGTACATTTGAATGGATGAGCAACTTATATAGAACCAACATGTGCAACACAGCTTTTCAGACA  
 CAGAGGAATCCATGACGGGAAGTCTTGACGAACTGCCAACTGCCAACGTGGTGAAGATGGAAGCAGTGGCTGGTAG  
 CAGTAGTGGGCATAGTGAAGTCTAGCAATGAGGTTAATCTAGCACGCAAGCCAGTCAGCTGGGAGCGCTCG  
 GCAGTAGGTACAGTCAGAAGACATTCAGATATTGAAGCCCTCAAGAGGGAAGATGAAGACGATGATCATGGT  
 CATAATCTCCCAAAGCAGTTGTGTACAGATCTTCGGAATAGAACTAGAGGTAGAGATCAAGACCTGGTATTTAACCTG  
 GGGACCTCCCAAGGCAGTCAAGAAAGAAATGGGACAGCAGCGGAACAGGAAAGGACCTGGTATTTAACCTG  
 AATCATTCGCATAGTAGAATTCGAATCGCAATCGAATCGTGGATGCTTTGTCACACTCTGAAGCCCCAGAACATGATAT  
 TTCAGGGGAATGAATGCTACTCATATAGCACAGGGTCTCAGGGAGTCTTGATCACACGAACTGGGGACCTTCCT  
 TGGGAGACTATTGGGAATGAATTTAATTTGCGACAAATTTATGGTCCACAGCATCACCACCACCACCCCA  
 CCATCACCACCACCCAGTGGCATATGGTTGATGATATGCTAAGTGACAGATGATGCAGTTGTAGTAGCTCCCA  
 GGTTAGTGCAAAATCAGAAAAAATATGGCTGATTTGATGGTGAAGAATCTGGATGTGAAGAGGAGCTAGTTCA  
 GATTAAATCACATGCGGAACGTGACATCTCACCCTCAACACATCTCCCAATTTAGCTTCCATTTACCATGAACT  
 CTTAGTCAAGGACCTGTAGTTCATAAACATCAATTCACAGTAATGCTGTACAGACATTAATTTGGATAATGTTTG  
 CAAGAAAGGAAATACCTTTTGTGGGATATAGTCAAGATGAAGATGCAGTTAATCTTTCTGAAGGATTAATAAT  
 GAAGCAGAGAACTCTTTGTGTTAGTATGTTGTTTACAGATAGACAAATTCGAATGAGATTCATTGAAGGTT  
 GCTTTGAAAACCTTGGAAACCAACAGATCAGTAGATAATTTCACTTCGCTCTTCTCCAAAACATTTTGGTACTTTTCAG  
 CAGTTTGGGAGCAGTTACGATACACACTGGATAACAAATGTGGCGAGCAAAAAGCACTGAACATGATGAAGCTTTTC  
 TTGATAATTTGGTATACATACTCAACTGTGAGAGAAGGAAGACAAAAACATGCACGTGTACAGCCATAGTGCTG  
 AAGTTCAAGTTGCTCTCAATCTTGATCTTGTTATTTTCACTCTGGGATCAGCTGATCATTCATTCAGGTTAAGTTTA  
 GAGCAAGTTGACATCTTATGSCATGTTTAGTAGAAGATTTCTGAATGTTATGATGATGCATCCATCTGGTTTTTAA  
 TCAAGTTGGAATGAAGATCAACATGCTATGGGTATGGAACCTACAAACATCTTTTCTGGAGAAGATGCCCA  
 GCTAAAACCTGAACAAATTAGCATGACTGGCTTAAACCTGTTTCAAGCATCTCTGTAACCTTGGCTCGATTTGGCTACC  
 AGTGCCTATGATGGTTGTCAAATCTGAGCTGTGGTATGGACCAATTTTGGGGCATTTGCTTTAAGAGACACA  
 TCTGCTGTAGTCAGTCGAGCAGCTATCCAGATATTAACCTCTATATATGTTAAACAGGTTTTGGGAAGG  
 AGCAAGAAATTTATAGTAAGTGCATGGAGAGCTTATGATAGCTTCTAGCAGCTTTGAACAGGAATCACATCAAG  
 TCTCATGGTTATAGAAAGAGGACTCTTATGCTGAAGACACATCTGGAAGCGCTTTAGGAAGAGGTTTGCATATCA  
 TCTGAGACAGTGGCAATTTGAAGGCATGGTATTAGTAGTCTATTGAAAGCCTAGATTGACAAACAGCTCTGTGCC  
 GCTAAGGCTTGTATGCCAGGCTGAGCTGGACTCTCTGACAAGATGACTATTGAAATGTATCTCTAGTGACCAGGTAGC

FIG. 1E

A G A T C T T T A G G G C T G A A G T A A C T A T T G G T A T G A A A T T T A C A G A A A G A C A A A T A A A T C A A C A A G C T C A G C T T C A G  
 G A G A T T T G G T C A A A G C A A C C G A A A G A G A G T T T C T G G A G G C C T C A T G G A C C T G T C A G G A T G A T T T C A T C T G G  
 C A C A C A G A T T A C A A C A G A T A T G A T G A A A A G C A C T A T G A G C T G G T T T A A G G A T A T G C A G A T G G T A T T G T A  
 T C T T T G G G T G C A C A A G A G A G A C G G A A A G G G A A G G T G T C A G C T G C C A G A T C T T G C C T C C C A C C C C T C  
 A G A A A G G A C A A C A T T C C A A T G C T T T G C T T T A C A A G A G C C T A T T A A C T A C T C T T T T G A T T A T A G A G A T G C T T  
 G G C A T C A T T T A A C C A C C C T C G A A A A A G T G C A G T G G A T G A T A G T G A G A G C T T A C G A T G T G A A G A A C T T C A T C T  
 C A T G C A G A A A A T C T G T A G G C G G G T G G A G A C T A C T A G C T C T C C T A C A T G C C T A A T T A T G T T A G T A G G C A  
 T T T C C A G A A T C T G A T G A G C A G A G T T T A A A G C T A G C T G A T C A G A C A G C T A G A C A T G A A A T T T C A C A T A T T  
 C A A T G G C C T C T G G T A G T T G G G C T A T G C T G T C T T A G T G A A A C T A G C C T G C T G A A T C A A T C A G T C A G T G T C T A A A G  
 A G A T T G C C T A A A G A A A T T G A C T C C T T A T T C T G A G A C T G C A G T C G T C A T G A A T C A G A T C A G T G C T C T A A A G  
 T T T A T C C C T G T A G G C T G G A T G A G A G A C T A C A A T C A A T G C T T T T C T G C T A T T G G C T G C C T C A A C A T T A G A  
 A T G T A A A G A T T T T T G G T G T T A T G C A A A T A G T T G A C A C A T A C A T A A A A G A C G C T A G T C A G A C A A C G C T C  
 C T C G A C T A T A G T G C C T G G C A A G A C A T T G G C T A C T A T T C G A A G T A G T T C G A A G T G G G A G A T C C T T G A T C A G A T G T  
 A A T G T A G A G A T A G T G G G C T A C G A G C T C C T A A G C C T G C A A C A G T G T T G T T A A A C A C A A A C C A C C C T T T A A A T  
 T T T C A A G A A G A G A C A G A A T T T T G A G A T A C T T C A A T C C T G T T T T G T G C C A A G T A A A G A C A G C G C A C A  
 A C A G C C A A A G T C A A A T C A C A T C T T C A A G A G C T C C C C T A C G A T T T G T A G A G A G A T G G T A A A G G G C T C T G T  
 T G A A G A C T A C A G G C T A A C A C A G C T G G G T T A T G G C A C A C A C T G A C T C C C A T G C A C C T T A A A A T A A A A C G G A T T A  
 C T G G C C T A T G A A G A T G C C G T C T G A A T G T A T T G T G G C C T A C T A A C C T G S A G C T A C T T G T A C T T A G C T T A G C T  
 T C T A C T A T T C A G A C A C T A T A T G A T A C C T G A G C A A C A G G C T G C T T C A C T G C C A A G T A T T C A G A G G A T A T G A  
 A G C A A A G A C C A C T C T C G A G C T C A G A A A A T G T T A C A T A T T A A T G G A G A G T G A A T G C A A G C A T A A T A A T C C  
 T A G A C C T T C T G T A A A C A T A C A C T G A A T A G C A G C C T C G A A T A C T G C G G A C A G A A A T A C C G C A A A A G T T A T T A G A G A G T T  
 T A C T A C T A A T T A C C A A A T C G A A A A A T G C T C C C G A A T G C C C G A A A A A T A C C G C A A A A G T A T A G A C A G A G T T  
 G T A A T A C A A C A A T G T T A T C C T T G G A T T G A A C A T T A T G A C A C T G T A A G A G T T A G A A G T T T A T A C T G T A G G T  
 G C C A A G T G G C T G A T A G A A A C A T T A T G A A C T C T T G A T G A A G T A C T A T A A A A G A C A C T T T T G G A A G G T G A T A A  
 C A T G T A T A C T T C T C A A T G T G G G A A A A G T A C G A G C T G A A A A A A A G G C A T G T T T A A G A A A T T G C C T C G C A T T  
 T N A G T T C A A C T A T G A G A T A C A C A T T A A T A T G G T C A G A T G A T G A A A A A G A A A G T G A A T A C A C A T C C C T C G C T  
 C C C A T A C T T T T G S A C A T A C G C C C T A C A G A A G A T T T C T A T G G G A A A A G A G T A G A G A A A A G A A G G T T T A A  
 A A A A G T C A G T G A T C A T T C A A A A G A C T C A G A G C T A T G A A T A G C T T A T G A T G A G A G T G A C T T T C A C A C A G G A A C  
 G G C A C A G A T G T G S A C A T T A T A G C T T T A T C A G A T A T A G A A T A A T C C C A T G C T T A T A A A A C A A A A A T A A A T G G T A T  
 C T T T T A A T G A T G C T G A G T A A A C C T T T A G C T G C T C A A C T T G C A T G C T G A A T G T T T G G T G G A G A G A T A C G C A  
 C C A A G A C C C T A T G A T C T T G T A C A G A A A A T T T A T G G A C T C T C T T T T G A A A A G A C A C A C A G C T C A T A T A T G C T G T T

FIG. 1F

TACAAAGCATGGACACAGAGAAAGAAATGGCAGAGAAATACAAATTTGATGTTTCGTCCAGAGTTACTAGAGTGG  
 ATTTGGCATGAATACGATGCTTTCAAGACAAAAACATTTTGAACATACATAATTTTGGATTTACTGTGGCAATTT  
 GTGAGTTGATTTCCCGAGTACATACCAGATCCTAAAGCTGTGCTTAATGACAGCAAAAGTTAAAGCACTGCTTT  
 GTCTAGAGACATTTATTTCAITTAAGAAAGCCACGATGCTTCAGTGGATTGAACCTGTTGACGAAACAGATTGA  
 ATAAATGACGGCAGCTGTGAGTGGTTTTAGATGTGGCTGATGACGATGTGGGCCAATGCAGATACATAA  
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 CATGCTCATCTATTTGCAGCAGGAATGGAAGATGGGTGAGATGATATGGATACCTCAGTAGAAGATATGG  
 TGGTGGTCAATGTGCACTGCTTTGTGAGAACCCGTGTTAATATGGAACATGGTGTAAACCTCACAGTAA  
 CATCTACAGATATTTGCTTCCCTTTACGAAATTTGCAAAATGGGTGAAGAGAGGCCAATTTTGTCTTTCAAT  
 GCAAGTATATCAATGGTACATTTTACATGGGAACAAAAGGACCTGAAATCCTCAAGTTGAAGTTGATATCA  
 GAGGAAGGGGGAAGAGAGAGAGAAATCTCTCTCTGCGAGAAGAAAATACAGGCCAGCTG  
 CCGTTGAAAAGATGATAGCTTTAGTTGCTTTTGGTTGAACAGTCTCGATCAGAAAGGCATTTGACATTATCACA  
 GACTGACATGGCAGCATTAACAGGAGGAAAGGATTTCCCTCTGTTTCAACATATCGTAGGGCATCAATATA  
 AGACAACTTGTAATCTGATTTTTCAGCCTGTGTCGATACAAATCGACTTGCAGAACATATTTGATCTATGCTTTT  
 CACATCAATAGCAAAAGTTGACTCTGAGGACGCCAATCCTTTCTTAAGTTGTGACTATGCTAATGGAGTTGCT  
 GGTGAGCTCCAGGAATGCTCCCTCTTTCATCTTATATTCGAGAGGATATGGAGGTGATTTGAATACAAATCCT  
 TCTCAGTCTAGATTGGTTGGCAGTGCAGACACCCCGAAATAACTGGCACAGCTGGGCTTACAGAATATG  
 GAAAACGGGTGAGCGGTTCTTTTGGCTCAAAATATCTAGATGAGGACTCTGCAGCTTATCTTCTGGTG  
 TCCCTTATACCAAGCAATTCATCCGTGATGTTCCGGTCAACAAGGCTTTTGCACATCCCAACCCCGTGAACCTT  
 CCACCTCAGTCCAGACACAAAGTAGTCTACATCAGCTCTACACAGCTGCTCCTGGTTTGTCTCAAGAGCCCAA  
 CTTTATGTTGATGCTGTTTCATGGCACTACAAAGCTAGTGGCCCTTTTAAGCTTTTACCTTTTAACTTTT  
 CAAACTGAGAACTGATGTTTCCACATATTTCAATGGATTTGTGGAACCTTTTCCAGCTTAACTTCTGAGCCCA  
 GCAATAGCTACAAATCAAAATTAACAGGCTTTGCTTCAACAGAACTTCCGCTTCAATATACATCTGCTGACCATGATGA  
 TCCGCCTATTGTTTCAGAACCCAGTGGTAAACCAAGAACTTTCGCTTCAAGCTTAACTTCTGAGCAGTCTC  
 GGATGGTGTCTTTTAAACCGTGGATGCTGCCAGCGTACTATGGCATCTGAGGCTCTGCTGTGAGCAGTCTC  
 CTGCATTACACGACAACTGGCTTCTCACCAGAACATCCAGTGGCCCTTTAAGAATCTTACACCCAGTCCAGGCC  
 AATACCTGGAGCAGTAGAAGAACTGTTTAACTGATGACGCTGTTTATAGCTCAGAGGCCAGATATGAGAGAAG  
 AAGAATTAGAAGATATAACAGTTCAAGAAACAAACCAATGTTTACTACGTTTGTAGTGCGCCGCTCTG  
 CTGGACTACTTTAATAGTGGCTTCAGAATACTATTAGAATCTGATGAAGACAGACTCTTGTGTATTATATCGAG  
 GATTGATCTTAATGACAGAGTCTTCAACACTTTTGCAATGATGATACAGAACTGCTTGGCCATGTGACGTGG  
 AGATTAGTAGAAGCTTCTGCAATTTCTTGGTTTGAAGTCTACAGCCCTTATCTCAGAGAAAGATGTGA  
 AACAAAGATTAATCCAGTGGCAGGAGGAAATGAAATTTGCCATAAACTGTAACTCTTCTTAATCCCTATAGTCC

FIG. 1G

TCAGAACTTAGAATGCCGTATAGATGCTCCTGAAGGAACCTTGACTTTTGAGTCCCATGATTTCCTCATACT  
 CTGGTCCCTTTCTACACACACCAATGTACTTTACCATCAGATTAATGAATGTGCTCTTGGACCTTATTTCC  
 TTGTGCAGAAATATCAAGTAATAGGAGGGAAGCAATATTCGGCCCTCGGCCCTGAACCTCAATATGTGCT  
 CTTGCCACAAATGGTGGAAACAGTAAGGGCAAGATGACGTTTATGATGTTGCTGTAGCTACTCTTTTC  
 TTATCATAGTTCATCCATCTATTGCGGAGTTGCAATCAACTGTGAATAATTTACTGAACCATTAGTAAAGCTGA  
 GTGCTAGTTCGCTATGAAGTTGCCACTTCCTTGCACGTGTTCCCAACTTTGAGCTGAGCTATGCCAGA  
 CTCAGTCTGCTATGTCAAAAACCTGCATCAAGCTTTTGTGAAGATCCTGTTTTCCGAGAATATATTAATGTATC  
 CTAATGGAGTGAAGAACTTTTTTAAACAACAACATGTCTACACGTTTCATGACACATTCCTCTAAAGGTTCAAG  
 TCAAGTGTTTTCTGAAGCAAACTGTGCCAATTTGATCAGCACTCTTATTCACAACTTGTAAGCCAGTATCAGAAC  
 CTACAGTCTGATTTCTCCAAACCGAGTTGAAATTTCCAAAGCAAGCTCTCTTTAAATGGGGACCTGAGGGCACTC  
 GTTTGCTCTCTAGTACACTCCCAACAGTTTAAACCCAGCTTAAATCCAACTCTGCAAGAGCTTTTAAAGA  
 AATGCAGGACTTGTCTGCAACAGAGAACTCACTCCAAGAGCAAGAACCCAGCAAGTAAAGATGATG  
 AAGGAGCAACTCCCATTTAAAGGGCGGTGTTAGCAGTGTAGGAGCACTGTAGACAGCTGCATCAGTGAC  
 ATGAAACAGAAACCAAGGAGGTCTGTACCCCAACGAGCACTCTGACAAATGAGACCAGAGACTCCTCAATTATT  
 GATCCAGGAACGTGAGCAAGATCTCTTCCCTGAAATAGTTCTGTTAAAGAATACCGAATGGAAGTCCATCTT  
 CGTTTTAGAGACATGTCAAAATATCAGGTACAGCATGCAGAGAACACAGTCCAAACAATGTAGATATGACGATT  
 GTAAAGAAATTAAGACCTCCACTGTTCCAAAGGATTCACCCTAGCTGAGGAAGAACTGAGTTCCCTTCTACTTC  
 TATCTCTGCAGTCTGTGTGACTTAGCTGACTTGAGAAAGCTGTGATGGCAAGCTTTGCCCTCCAGGACCCCTGA  
 GGTTGCTTTATCTCTCAGTTGTGGCCATTCAGAGGACTCTTTAGTCATATGCAGCAACATGACATTTTAGATACC  
 CTGTGTAGGACCAATCTACAATCCATTCGTGTCACAAAGGATATCTGGCAAGGAACCAAGAGCTGCTCTTGA

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 ATGCTCTCTCTGAAGATACATGGTCTATCAGAAATTCGAAGTATGCAGACTGGGATTACAAAGTGGAAAGAAAGGA  
 TCCTTTGAATGTAGAAAAGAGAAATAAGTCAGCCTAGTAGTTTCACTACAATAGTGGAGGAATTCGAAGGATAT  
 TTCAGTCAAGTCAATCAATTAATAATGGTGGTCTTGGACCCAGTGGAGCGAACAACAAAGCCGCTAATGTTAACTC  
 TGCAAGATAACAGCTTCTGTCTATGACAAAGTACCAAGTAAAGATGCAGAGGAAATGAGTTGTTCTTAGATG  
 CAGTCATCAAAACAGACTTCTCGACCCATGAACCGTCTCAGGGGTCTGGTAGTTTTGGAGCCATCTCTGGG  
 AGCAGGACCTACAGAGGAACAGCAGCGAGCTTTCTTACTCAGACAATCAGGCTTCGCAAAAAGAGGAAG  
 TTTGGAACATAAGATGATATCCATTTGAAAGTTCTGGTAAATCCGGGTAGAGGATCGATTAAGACTGTAGCA  
 GGAAGTGAAGTCTCGAGCAATCTCTTCTTTGACATCTACTTCAACACCTCTTAGATCAGGGTTGCTAGAAAT  
 CGTACTGAAAAGAGGAAAAGATGATACAACTGGCTCAGAAATGAATGAAGATTACCTTAAGGAAATGATTTCAT  
 CATCGAAACAACAGGCCATGACAGATCCCTCCAGAAAGTATTTAACAGCAGTAGAGAAAAGCAGCTGAGTTTGA

FIG. 1H

AACAGTCAGAAAGAGATAGGACATCAGGTGGGCTTTACCTTTACAGTCATCATCTCTTTTATGGTAGCAGAGCTG  
GATCCAAAGGAACACTTCTGGTGGCACTAACCTTAGACAGGACATAATGTTTCAAAGCCAGACTCCCTCTGCCAAA  
GAAGTTGGGATTTCTCTCAGGCAGTTCCTCTTCTGTAATAAACTGAGGTGAACCGAGATTACACTGAGCTG  
AATTAACCAAGAGTGGCCCTTCTCTCAACAGCAGCAACTGCGAGGCTTCCAAATTTGGGAATACCTG  
CTATATGAATGCTATTACAACTCTATTTCTACTCCAGTCAATTTGCAAAAGACTTGGCTTAACCAAGGTATCCCAT  
GGAAGAAAATCCACCTCAATGACCTATTACAGAGCTTTGACACATCTGCTGTTAAAGAGATATCTGTAATTACAG  
GACCAAAAAGGATTACTCAAGAAAGGTAAAAATGCCATTTACAGTACCCAGAGAGATCTCTGTTATATGAG  
AATGATGCTCATGAATTTTTAAGTCAGTGTGTTGGACCAGCTGAAGAAGATATGGAATAATTAATAAACTTGA  
AGACTGAACCTGTTCTGGAGAAGAAAATCCACCAGATATTTACAGCTACCCAGAGATATCCCAAAAGAGAACAGT  
TAATTGGAGTTTGAGGTTACAGCTCCATCAATTTGAAAGCATGTGGAGAGATTATCCCAAAAGAGAACAGT  
AATGACCTCTCTATTGACCTTCCTGAGGAAAAAACCACTCCCTCCTCGTTCAAATTCAGATTCTCTTGATCTTT  
CTTTAGGGCCGAAGAACTGGAGTATCTGTGAGAAAGTGGTGGGAAGTGGCTCTGTCAGGCACAAATTTAA  
CAGGCTTCTAGGGTCTCATTTCTCAATTTGAAACGATATAGCTTCAATGGGCTCTCTGCTTAACAAATAGAT  
GGGCAGCAAGTCATCTTCCAAAGATACCTGACCTGTCTATCTGCACTGAAATACAAACCACTTTTACCC  
TTGGTTGGAGTGCACATATGGCAATGTCTAGACCATTTGAAGCCCTCAAAATGGTGAATTCCTGCATCACAGCC  
CTTCTACACCTTCAAAGAAATTCACCTTCAAATCCAAAGAGCTCCTTGGCTTTATGGCTTATTCAGACAGTGAGGA  
TGAGCTAAACGTTCTGGCCCTCAGCCAGAGACTTTGTGAATTTAGGCAACAGCAACAGCAGCGGAAGACC  
TGGAAGAAAGATTCAAATATAGCCAAATAGAGCTGACAACTGTAATTTGAAACACTCAGGATTTGACAGAAATGA  
GCGAAGAAAGCTTCTAGCAGCTGCTTTGGAGATAGTAAAGAGAGATGCTTCACTCTGAGTCACTGAAGATG  
ATGATAAGCCAACTAGCAGCCAGATACCGGATTTGCGAAGATGATATTCAGAAATGCCAGAAAATCCAGACA  
CTATGGAACCTGGAAGCCCAAAACAAATCACAGAGCTGGATCTGCCAGTTTACTGAGATAAATAAGAGCTGTG  
ATGAAATAAAGAAACAAACTCCAGAGGATCTCAGGGAGAGTTGATTTGGCTCCAGCAGTATGATATGGAGC  
GTGAAGGGAAGCAAGACTTTCAGAGGCACCTGGCTCAGAGGCTTCAAGCAAGAGGCTTTGGGAACAGAA  
AGAAGATGATGACCTCAAAGAGCTACCGAGTTAAGTCTTCAAGAGTTTAACTCTTTGGGATGCTATGGG  
TTGATGAGGACTCTGGAATAGGAGTGTTTTGTATTTGGAGTACACAGAGCTGAAGCTGAGGAAGTGAAG  
AAATGCTGAGACAGGAATCTGCCTCATTGCTACCGCTCATCAGTGTGTGAGTACATTTGGTAGCACTTCTC  
TTAGGCTATTACATTAGTATGATATGACATTAAGAAGCAAGCGTGGTTTACTTACATGACCTGGAGGATATCA  
AAATCCAAAGGGTGGCGTGCAGAGTATCGAGATCGGATGGCTACATCTCTTTTATATGCACAGGAGATC  
TTTATGAGCTGCTGGAAACAGAAAGAACTCTCAGTCACTTAGCAGGGAAGTGGGGAAGAGACTACCCCGTCAGGC  
CTCGTGA



FIG. 11

>SGPR496\_1\_SEQID.7  
 ATGACACTACTTGGCTCCGTGTACACAGGCCCCATGATCCCCATGGATGTTAATGAGCCCAAGCTCCGTCGACCA  
 GGCTCCTACCTCAGCTAGCTGAGCATATCTCTATTCTGGCCACTGGTAAGAAACATTTCCCTCCATTT  
 TGGTCATCCACGTGAGTGAAGTACCAGGATTGATGACAAAAATAGAAGAGGATTGGAAGACAGTGAAGCCAG  
 GTGCCAAACTCTTAATAATGATGGAGTGTGTTGCTGTCAAAACGGGGCCAGTGAACATACATCAAGTGT  
 GTGTAGTCCGACGACCTTACAATATCAGTITTTGTTATCAGAGAAATACGAGGGTATTGTTAAATTTGAATC  
 GGATGAATACCTTTTGGTGTAAATGGTTCTAAATTTGGTATGCACATTTTCAAGAATTCAGGGCTGGAATCTCC  
 TGGAAAGCTGTGGTAGACTGATACCCCATCTCTCAGTTCCTGATTGTCGACGACGACGACGACGAGAT  
 TCCTTCAGTGTAGTACTGAGTTCCTCTGTGTCAGGCCACAAAGGCGAGCAATTTATTGAAAGGATGCT  
 GGGGTGCTCAAGGAATTTGAAGCAAGACTGACTCAGGAAGGGCCGGGGGACACCCOAGGCTTCGCGT  
 GCGGCGCCGCGCACGCCAGTGGCCGCCCGAGCCCTCGAGCAGGGGAGGAGCCGCCCGCCAGTGGAGG  
 CGGAGGAGGTAGAGGAGGCGGAGAGCGCGGAGAAAGCGGAGAGGAAGTGGAGGCGGAGGCGAAGGTGGA  
 GGGGAAGCGGAGCGCGGGAAGCGGAGCGGCGGGAAGGTGGACGCCGCGAGGGTCCGGGCCCGCGGGCTGAAGCT  
 GCGGGGAAGGTGGACGCCGCTGGGAAGGTGGAGACGGCGGAGGGTCCGGGCCCGCGGGCTGAGCTCAAGCT  
 GGAGCCGAACCGAGCCGCTCCGGAGGCGGAGCAGGAGCGCGAGCGCGAGCGATGGAGGATGAGAACCCAG  
 CCGGAGCGGGGTGGCGGCAACAGCAGAGGTTCTCTCCCGCCACCTTCCCTCCGATCCACCGCGGCCCG  
 CCGATCCCTCTCGCGCTGCGAGTGTGCGCGCGCCCGACCCCGGCCCGCGGCCACACCGGGCTCCGTA  
 CCGCGCGCAGCTAGGCCCGCGGCCCGCGGCCCGCGGCCCGCGGCCCGCGGCCCGCGGCCGATGGCTG  
 GATGTGGATTTGGCGTGGGCCACAGGCTGTTCTCAGTGAACAGCTTTAAGGTGGAGAGAACTGGAGGC  
 AGGAACTGGGGTTATCTACCACTGCTTCGTGTGGTGGAGCCACAGACCCAGAGACCCAGGAAAAGCAAGCAAGTCC  
 TGACTCGCATGTGTGGACCCCATCTGAACAGACTCCACTTTGCCCTTCTGTGCTCTTGGCTGCTTC  
 ACGGAGAACACATTCAGGACCGCAGAGACGAACACCACTTAGCAGTAGACCTGTATTACGGAGGTAT  
 ATACTGCTTATGTGAAGACTATGTATAGACAAAGACATTGAGCAAAATGCGAACAGAGCAAGCAAGGAAGC  
 CCCAACCTGGGAAACAAACACCCAGAAATTAGACTGCTGGGCGACAAACCCGAGGAGAGAAAGAAATCAACCTCCA  
 TTTGAAATTACAGCTCCACCTCAACAGAGTTTCTACACAGAGTTTCTACACAGAGTGTTCAGTGCACGGCTTGTGAGAAAT  
 TTTACGATCGGTTTAAAGAGACTCATCAATCTTGGAACAGCTGCTTTATGAATGCTATGTCACGCGCTCA  
 CCCACCGCGCATAGAGATTGATTTCTCTCTGACAGCCACGCTTTATGAGATGCGGAGTCCCGAGTTGTGT  
 CTGCTGTGAGATGCTCGCTGTTTCGGAGTTGTTATCTGGAACCCCGCTCTCTCATGTGCCCTTAAAGTGA  
 CTGACCTGGTGTGATACATGCCGCAATTAGCAGGGTAGGCGCAAGAGGATGCCACGAGTCTCTATTGCT  
 ACGTTAGATGCTCTGCACAGGCACCTGCAAGGATGATGTGCGGGAAGCGCGCAACAATCCCAAGCTCTGTA  
 ACTGCATCATAGCAAAATCTTCAACAGGTGGCCCTGCAGTCTGATGTACACCTGTCAAGCCCTGCCATGGCGTCTGCA

FIG. 1J

CCACGATAGACCCATGCTGGGACATTAGTTTGGACTTGGCTGGCTCTTGACCTCCTCTGCCCCATGAGCCCA  
 GGGAGGAGAGCAGTGTGAACGGGAAAGCCACATACAGGAAGCCACACCCAGCTACCGAGTCTTTCGGAGGT  
 TTACAGGCCAGCAGCATAGGAAGCAGTGCCAAATCAAAATGTTGTTAGTTGCCAAAGCTACCGAGTAATCTACC  
 AAACAGCTACAATGAATAATATACCTGTGCTGCTGTTTCAATTCAAACGGTTTGAACATTCACGCAACAGAG  
 GGGCAAGATCACTACATACATTTCTTCTCTGGAGCTGGATGACGCCGTTTATGGCCTCAAGTAAGAGAG  
 GCAATATGGAATGGACATGGAGCTGCCAACCAATAGTGAACCAACGAAATAAGTATTCTCTGTTGCTGTGG  
 TTAATCCAAAGGAACCTTGAGAGTGGCCACTATACCGCTTCATCCGGACACCAAGGCAGCTGGTTTCAAG  
 TGTGATGATGCCGTATCACTAAGGCCAGTATTAAAGGACGTACTGACAGTGAAGGGTATTACTGTTCTATCAC  
 AAACAGGTGCTAGACATAGTCTAGAAAAAGTGAAGAGAAATGAACACACAAGCCTACTGAT

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 AGAGACAATAGCTGAGAATCTGTGGTCAGTTTGTCTGAGAATGTTAGAGAAAGAAAGATTCATGATGGCGAGC  
 TAGTACTTACTCTGATATTGTGTTGCGCTCAAGTGTGGCTTCCAGGGATGGTAAAACTCAGAAAGCCAAAC  
 ATTCAATGAAGCACTTTAAGAGTTCAGAACACAGAGCCCCATTGATTATTAATTAATCTGAGCACATGGATTATATG  
 GTGTTATGAATGTGATGAAAAATTACAACGCATTGTAATAAGAAAGTTTGGCTCAGATGTTGATTTTCTCCAG  
 AAACATGCTTCTAAACACAAACAGTGCAATTTCTAGAAATCATGAACTTTTGTGAAGAAATTTGGAAGAAATACCTGCTTTTAAAT  
 AAATACAGAGGGGAGAAATGCAGAAATTTATCTGTAAGAGGAATTACAAATTAGGAAATACCTGCTTTTAAAT  
 CGAGTCATGCAGACTTGGCAGACTTACTCTTACTGATCTGATGAATGAGATCAAGAAAGTAGTACAAAC  
 TCAAGATTTTCTCTCAGACTCAGCTGGACCCATTGGTGGTGAACCTTTCAAGGCCGTGGACCACTGACCT  
 CAGCCTGTTCTGTTCTTCAGACATGAAGGAGACTGAAAAGGACCCTTCTCCTAAAGTTCTTTTAAATCA  
 GCTTTGTCAAGAGGCACTCGATTTAAAGATTCCAGCAACAGTGCAGTCAAGGAGCTTCTTCAITATCTCTGGAT  
 CGAGTGAGGACAGAAGAAACGAATACAAGCTAGCATCTCTAAAGCATTTTAAACACCAACTACTAAAGCT  
 GCTGATGAGAACTAGAAAAGGCTCAAGATCTCCAGGTGAAAGATCCATCATTTGATATTTCACTTCTCTATAA  
 TAGAAGAAAGGGTTTCAAACCTTTACTTTGGGAAGAAATGAATAATATAGAAGTTTACGGGAGACAGATCATGA  
 TCGATAGCTGGCAATTGTTACTATGAAAAATATTCATCAACCTAGAGCTGCCAAGAGCATCTTCTCTAAAGAT  
 AAGAGTCAACTAATTCATGACCGAAATGTATGAAAAATTTGATCTGGAGAACTGTCACATACCAAGAAATG  
 AAAACCTGAAATGAATGGGATCTTTAATGTTGCCAGCCTCATGAATCTCTGAGTACGCTGTAATGAAAGCCC  
 TACTGTACAGTGAAGAAAGGACGCCATTTCTGAAAGCAATGTTGATCGTACAGTGAGCCTTCAGAACTTGA  
 AAGTGCCTCAAAGCAGACTGGGCTGTTTCAGATGCCGTGTCAGCCAGTGGAGTGAAGGAAATGGCAGAAAGCTATTCT  
 CTCTGTGCGAGGGTAACTGCTGTACACCAAGGAGACTGACAGTGGTGTATAGGAAATGGCAGAAAGCTATTCT

GAACCTCGTTGAGCAGCACTGTAAGTGGGATCAAGATTTTGACAGAGAAAAATCAGCCACTAAATATTTCAATA  
 ATTTATGTTTTTAGAGGGAAGATTGAGGCTTATAGTCCCAAAATGCTTTTCAGACGCTTTCTCAGAGCTA  
 TATAACTCTCTAAAGAAATGTTCAATTCAGTCGTCTACCGATTTACATCTATGGAAITTAATAATGGGAATA  
 ATAAGCTCTATGTAGAAATGTACTAAAAACAAGAAATACCAAGAAACCAAGTTTTGCAGAAAAAAGAT  
 AGAAGGAGTTTATACTAATGCCAGGAAGCAATTGCTCATTTCTGCTGTTCCAGCTGCTCTATTCCTCCACCTGA  
 AGATTCATCAGGCTGCTTGAAGTCTGTAAGAGTGAAGACATGATAGATTTCCACTTATGCTGCGATTGAGAC  
 CATTCGCTCGCTCTGTTAAGAAATGCAAGTGTGGGAGATAAGCTCTACCGTCTCTATGGCATAGTTGGAAC  
 ATAGTGGCTCGATGAGAGAAAGGCACTACACTGCTTATGTGAAGTGAAGAACACCTCCAGGAATAATTCGGAA  
 CATAACTAAAAAGAAAATGTGCTGTTTGAAGCGGCTGATGTGAATCAGCAGGCCAGTGGGTGCATGTT  
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 ATCTCCACAGCCCTCATGGCATAGCGCCGAGGCTTAAAGCAGCAGGATACCAAGAGTTCTCTGACATTCCT  
 TATGAGAGCGGCTACACCTTGAATCAACCAAGCGAGCGCGGGCTCCACCACTCCCTGCCCATGGTCCAGC  
 TCCTCTCCACCCCAAGGAGTGCTCTGCTAAAGAGTGTGATTTAAATGATGCTGACTGGGCCAACCTA  
 ATGTGAAGCGTTATCTGGAAGAACAGAGGACAGCAAGATGTTGATCTGTTTGGGCCAGATGAAGAAGTTA  
 TCTAAGTGCAGGCGCTGGGTACCACTCTATGACCTTCAAGGTTTTTTTTTTGACCTCTCCCTGACCATC  
 CCCAAGAAAGGATTTGCTGGGGGAAGGTGCTCTCGGGATTTGTTAAAGCTTTTACCAAGGAAGAGAGCT  
 AGAGTTAGAGAAATGCCTCAGGACTTTGCCAGTGACAAAGTCGAAAGTCTGTCTACCAAGCTGTGTGCCCTTG  
 GAACCACTCAGCAGCATCTGCTGGCCACTACACACCTTGCCAGTGCCAGTGGTTGGCACGTTTAC  
 ATGACTCTTGCTCCCTTAAACAGCTCGGGACACAGAGAAATAGAACTACAGTTATGAAGGCTCTAGTT  
 CTAGACATCTGTTCAAGCTTCCACAGATATTTATTTAATCATGACTCCAGCTCTGGGAACAAATGGAGGA  
 AGTTACCAAGAACTGAGGTTTGGAAAGAAACATGAAGAGCTGAGACTCAGACCTCTGAAGGAGAGTAGCAT  
 TGGCTGGTGTGGTGCCTCTGAACCTACAGGAAGTCCCCACAGATGGAGGCCAGGAAGGGCGCTGGCCA  
 GCTGCAAGTGTGTCTCCAAAGGGTACCATAGCGGGGTTATGGGTGTGACGGAACAAAGCTGGAAAGGA  
 CCAGATGCTGCTGGGCAAGACCTGTGATAGGTGATACAGTCTGAGCAACAGCCAGCAACTAGGAGCAAG  
 GCTTGACAGACGGCCACCTTCTCACTGTGCTTTCACACAGTCCCTCTCTGGGCAATGCTGGATCTCTCTT

FIG. 1K

TTCTATGGACCCAGTCATATTGGATGAAGGCCCCACCTTAATGACCTCATTTTAAAGGGAGGGGCCCTGTGACAA  
 ATGCCACAGATTTTACTGGGTTTCTGCTGGAGGAACTTGCTGCTTTAGAAATGCTGCCCTGATGGACCA  
 GCACCAAGACGTTTCTCAGAAGAAAGCTGCTCTTTCCCTCTTCTCTTACATCTTTGTCATAAGGCAGGTA  
 AACTCTCCAGCCTGATCGATGAATTTCTAGTGAAGAAAGTTTCATGCTCCAACAAGGGGATCGTTTATCAT  
 GGAACCAAGACAGCTGGTGGGAGGGCTCCCTGTCAAACTCCAACAGCCCTGTGCACCTGGAGGAATGAAC  
 AGTGGATGGAGCAGAAAGCTGCACATTTGCAGAGGGAAGCTGTGGCCCTCTTCTTCTGTTGTCGAA  
 CCTGAGATCAAACTACGAGTTACAAATTTAGGAAGAGCTTTGGTCCAGGCGCTTGGGGAAGAAAGATG  
 ACAACCACTCATCTAGCGAGATGCCCTGGGTGCCGTGGGTGGCATGCCAGCATCCATGTAAACTGCCCAG  
 AATTGTGCAGATTGACACTCCAAATTTGCTATTTGGTTCTTGAACACAGTTCCAGATTCAGTACTTCTTACT  
 TCCCTGCTCAGTTTCTTCCATGATTTCAACCAGAGGAAGCAATACCTCCTCAATCCCTGCTCCCGGGTCC  
 CCAAGGCAAAATTCATTCCCAAGGACAAAATTTGTCCCCAAGGACAAATTTGAAGGTGATATTGTCCCTGCTGACA  
 ATGTATGAACTAGACCGAATATT

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ATGCTAGCAATGGATACGTGGAACACATGTTGGGCAGCTGCAGCTTGCTCAAGACCATTCACGCTCAACCCCTCA  
 GAAATGGCACTGTGGACTGCAACACGACCGAGTCCATTTGGGCTTGCCTTAGCTGCTCCCATGTTGCCGTG  
 GAAGATATTGAAGACATGCACCAAGCACTTTCAGAAGACGTCATCCTGTTGCATTGGAGGTGAATGAGA  
 TGAAGTCTTGTACCTTGTGATGATTTCTGAATGAACGCAACTGAGACCTGAAGTTACTACGAGC  
 TACATTAAGTGCCATCAAAAGTCAAAATATCACTGCACAACTGTAAGTGGGAGGTTTTACGGTCCCATGGGTACA  
 GGTGATGATCTTATTCTTACATGACGTGCCAATCTCTGCTTCAAGTGAAGATCAACTGTATACTGCTCTTT  
 GGCACAGGAGAAGGATACTAATGGTAAATCTTCCGAACATGGTTGAACAAATCACCCATTGGAGCAAAAAAGC  
 AAGAAGAACCTTTACGGAGAAATAGTAGTAAAGAGAAGTAAAGAAAGACGGCAGGAATGGAGTATCAAG  
 TTAAGCAGAAATGGAAGATGCTCCCAAGAAAGATTTACGTTTACAAAGGGCTCGCTCAGTCAGCACTAATAG  
 AATAGTTCTGTTACGGTCCGACACAACGCCAGCATCACAGCAAAAGATAAGTACTCTCACTCAGAA  
 ATGAATATCTCAAAAGTCAGTACTCTCAGTTAAACGAGGCCAATAGTAACTCTGGGTGAACAGGATGA  
 GAAATTTGGGAAATACTCGTATATGAATCTGTTCTTCAGGTGTGATGTCATTTACTATTTTCGACAAATGTTTT  
 TAAAGTCTGATCTGAACCAATGGCTGGCTATGACTGCTAGCGAGAGCAAGATCTTTGTAAGCATCCACCAGTCA  
 CAGATACAGTAGTATATAAATGAATGTACAGGAAAAGATACAGGTTGTTTGTCTCCAGACAAATCAAGTCT  
 GTATCAGGACTAAGTGGGAGCATCAAAAGTAGAAGATGAACACTATTTCAGCCAAAGGAGCCAACTTCACA  
 GTACATTTCTTTGTCACTGATTTGTCAGTCTTTGTTCCAAAGTCATGTGGTCTGGAAGTGGGCTGGTCTCAACA  
 TTTGCTATGCTACACTCAGTGGAGACTCATTCCTGCCCTTCGTTGTTACGCCCAACAGACGCTCAGGAATTT  
 CTTTGTGAACCTTTTATGATAAAATACACGTGAATTAGAGACAACCTGTACCAGTTTACCAGCTCTTTATCCCCACTT

FIG. 1L

FIG. 1M

CTCAAGGAAACTCATCAACAAGTCTGAATGTTGTAATAACATTTTTCATGGACAACCTCTTAGTCAGGTTACA  
 TGTCTGCATGTGACCAACATCAAAATACCATAGAACCTTTCTGGGACTGTGTTACTGGAATGTTTGCCAAAGTTTCCAGAAAGGTATC  
 AATGTCAGTGGAAAGATATTGCTTCCACCCATGCTGGTTACTGAAATGTTGGCCAAATTTACAGAAACTGAAG  
 CTTTAGAAGGAAATCTACGATGTGACCAAGTAACTCAAAGCGTAGAAGGTTTCTCTCCAAACCAGTTGTA  
 CACAGAAGCCAGAACCACTTATGATGCCACCTACCTCAGGTTCTCAGACTGCACGCTCAACGATTCAGGTG  
 GTCAGGAGTAAACCCAGAGAGAGATTGGTGTTCAATGTTGGCTTTGAGGAAATCTTAAACATGGAGCCCTATTG  
 CTCAGGGAGACCCCTGAAATCCCTCAGACAGAAATGCTTTATCTATGACTTGTCCCGGTGGTGATGACACTG  
 GGAAGGATTTGGCTCAGGGCACTACACTGCCACTGCTATAATCTGAAGGAGGGTTCTGGGTACACTGCAAT  
 GATTCCAAATTAAGCATGTGCATATGATGAAGTATGCAAGGCTCAAGCTTATCTGTTTATCCCAACGAG  
 TTACTGGAATGGACATCTTAACTTTTGCCTCCAGACTCCTGTTGGGGAGCCCAACATCCCAATGAAGACGCTG  
 ATACCTCGTCTAATGAAATCCTTAGCTGA

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 ATCGGGTGAAGATCCAACTAAAGCTTTACCTGAGAAAGCCAAAGAAAGTAAAAAGGCCCTACTGTACCTCATGAT  
 GAAGACTCTTCAGATGATATGCTGTAGGTTTAACTTGCCAAACATGTAAGTCATGCTATCAGCGTGAATCATGTAA  
 AGAGACCAATAGCTGAGAATCTGTGGTCAGTTTGTCTAGAATGTTTAGAAGAAAGAAAGATTCTATGATGGCGAGC  
 TAGTACTTACTCTGATATTGGTTGTGCCTCAAGTGTGGCTTCCAGGATGTGTAAGAACTCAGAAAGCCCAAC  
 ATTCAATTGAAGCATTTAAGAGTTCCAGAACAGACCCCATGTTATTAATAATCTGAGCACATGGATTATATG  
 GTGTTATGAATGTGATGAAAAATTATCAACGCAATGTAATAAGAAAGGTTTGGCTCAGATAGTTGATTTTCTCCAG  
 AAACATGCTTTAAACACAAACAAGTGCAATTTCTAGAACATGAACTTTGTGAAGAAATGTGAAACAGATG  
 AAATACAGAAGGGAGGAAATGCAGAAATTTATCTGAAGAGGAAATACAAATTTAGGAAATACCTTGCTTTTTAACT  
 GCAGTCATGCAGAACTTGGCAGACACTTACTCTTACTGATCTGATGAATGAGATCAAGAAAGATGATACAAAC  
 TCAAGATTTTCTCTCAGACTCAGACTGAGCCCATTTGGTGGTGGAACTTTCAAGGCTGGACCACTGACCT  
 CAGCCTTTCTCTTCTTCCAGCATGAAGAGACTGAAAGAGCCACTTTCTCCTTAAAGTTCTTTTTTAATCA  
 GCCTTTGTGAGAAGCGGGTGCACTACATTTAATAATA

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 ATGACTGTCCGAAACATCGCTCCATCTGTAATATGGGCAACCAATGCCTCTGCTCTGGAAAGACATTTGGTCCA  
 GAGCAGTTTCCAATCAATGACACTATTTCGGATGGTCAATTTTGSAAACACATGCTACTGTAACCTCCGCTGCTC  
 AGGCATTGTACTTCTGCCGTCATTTCGGAGAAATGTTTGGCATACAGGCCAGCAAGAAAGAGAAAGCAAC  
 TTGCTGACGTGCTGGCGGACCTTTCCACAGCATTGCACACAGAAAGAGGTTGGCGTCAATCCCAACCAA  
 GAAGTTTCATTCAAGGCTGAGAAAAAGAGAAATGATCTCTTTGATACTACATGCAGCAGGATGCTCATGAATTTTA

FIG. 1N

AATTATTTGCTAAACACTATTGCGGACATCCTTCAGGAGGAGAAACACAGGAAAAACAAAATGGAATAATTA  
 ATGGCAACATGAACACCTGCGGAAAAATAAACCAGAACTCACTGGTCCATTGAGATTTTCAGGGGAACGC  
 TTACCAATGAACCTCGATGCTTGAACCTGTAGTAGCAAAAGATGAAGATTTCTTGACCTTCTGTTGA  
 TGTGGAGCAACATACATCCATTACCCCTGTCTAAAGAGCTTCAGACACAGAACTTCCTGTGTAGTGAACAAA  
 ATATTATTGGAACATGCTGCAGCAACAAAGAGCCAGAAAGGATGAGGGTAAAAAGCTGCCCTGGTCTT  
 GCGCCTCGACCTTAAGCGGTTCAAGTACATGGAGCAGCTGCGCAGATACCAAGCTGCTTACCGTGTGCTC  
 TCCCTCTGGAACCTCGGCTTCTACACACTCCAGTGCATGGAACTGGACCGCATGTATGACTTGGTTGCG  
 GTGGTGTTCACCTGTGGCAGTGCTCTAATCGTGGGCATTATACATTGTGAAAAGTCAACGGCTTCTGGCTT  
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 GCTGGAGGATTCAGTGTGCGGAGACAGTGTATGACAGGTTTATAGTCCGCTTCCAAGAGAAGGTTCTG  
 TGGGTTCTACCACTGATTATGTACGCCAAAGCTACTCCTACTCATCTATTTTGAATAAATCAGAAACTGGATATGT  
 GGGACTAGTAAACCAAGCAATGACTTGTCTATTGAAATAGCCTTTTGGCAACACTTTTTATGACTCCTGAAATTAGG  
 AATGCAATTATAAGTGGAAATTTGAAGATCTGAAGAGATCCAGTCAAGATTTCCATACCACTTCAAGGC  
 TTTTGTGTTGTACAAACCAAGCAAAAGAGCAATTGAAACCCAGATGTTTACAAGGAGCTTTGGATGGGATAG  
 TAGTGAGGCTTTGGCAGCAGCATGTATCAAGAACTATGCAGATCATGTTTGTATGCTTTGGAACAGAAATGGAA  
 GCAACAGAACACAGGCTGATCTTAAATGAGCTATATCAAGGCCAAGCTGAAGGACTACGTGAGATGTCGGAATG  
 TGGTTATGAGGCTGGGAATCGACACATATCTTGATATCCCATTTGGTATCCGACCTATGGGTCAGCCCAAGC  
 ATTTGCTAGTGTGGAAGAGCATTTGCATGCATTTATCCAGCCAGATTTCTGGATGGCCCAATCAGATTTTGTG  
 GAACGTTGTAAGAAGAAGTGTATGCACGGAAGGCCCTTCGGTTTTTGCATTTCTTATCTGCTGACCTTATCAG  
 CTGAAAGATTCGATTTTGAATTAACAACATGCATAGGATTAACATGAATGATCGAATGACATTTCCCGAGGAAC  
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 AATGGAAGGCTAGTGTACAGTGCAGATGAGCAACGATTTCTCCAATGATGGTGTGATGAAGGAATCTG  
 TCTTGAACCACTAGTGGAACTGAAAGATCTCAAAATCTGGACTTGAAGAAATTCCTTGATCTATGAACTTTTCT  
 CTGTTATGGCTCATCTGGAGCGCTGCTGGTGCATTATATGATGATTAAGTCAATTCAGTGATGAGCAGT  
 GGTACAGCTTCGATGATCAACATGTACGAGGATTAACAGAGGACATTAAGAAACACATGGTGGATCTTCAG  
 GAACGAGAAATGATATTTCTAGTGTCTTGCAGTTCACAAATGCATATATGCTGATCTATAGACTGAAGGATCC  
 AGCCAGAAATGCAAAAATTTCTAGAAATGGGTGAATACCCAGAACATATTAATAAACTTTGGTGCAGAAAGAGAGA

FIG. 10

GTTGAAGAACAGAAAAAGACACAGAGAAATTGAGCGCAATACATGCAAGATAAAATTATTCTGTTTGCATCCT  
 ACAAAACAAGATTGATGAAAAATAATTGGAGTTTCATAGGAAGTAAAGACATTAAAGGAAGCAGTAGAAATGGCTT  
 ATAAGATGATGGATTAGAAGAGTTAATACCCCTGGATTGCTGTCCCTTGTTAAATATGATGAGTTTTCATGATTA  
 TCTAGAAGGTCATATAGAGAGAGAAGATACCAATGGGCTTCTACTAGGTGGCGTCAAGTCAACATATAT  
 GTTTGATCTGCTGTTGGAGACGAGAAAGCCTGATCAGGTTTCCAATCTTATAACCTCGAGAAGTGTGGTGAA  
 AGTTCATGTTTGTGATCTAAGCGAGAATCTGTAGCTGCTCTATACTGTTGCTGCTTACTTAATACAGACAGT  
 ACAAGATTCAACACGATTTCAAAGGCCATCCATTTACCTTGAACCAATGAGAATAGTGTGGAACGCTGC  
 TACAATGATTGGCTTCTCAGTGTCCAGTAAACCCCTGAAAGCTGAAGGATTTTTAGAAATAACAAGGTGT  
 TTGTTAAAGCTCCAGACTTTGGATTACAGATGGCTTTGCAGACTTCATTTATGGAACTCTCTGGATCGGC  
 ATGCAATACAATCAGATTATTTGTTTGTACCTGAACAATCCCAAGTCTTATCCAAAAGGACAGCATACCA  
 GAAAGCTGGAGCGGATCTGTAATGTGGATGATGACTGTGAAGAGTCAAAAGCCTGTAGGAAGCCCTAAAGT  
 CTGTGGAAGCTATCTAGAAGAAGCACTGAAAACTCAAAAGCTTGTCACGCAACACAGCAGGATGGAGATA  
 ATGGGACAGACGCAAAAGTACTGAGACAAGTACTTTGAAACATCGAATCAACCTCTCAATGAGAGGGACTCTT  
 CAGCATCAGTGGATAATAGAACTTGAACAGCATATTCAGACTTCTGATCCAGAAAAATTTTCAGTCTGAAGAACG  
 ATCAGACTCAGATGTAATAATGACAGGATACAAGTTCAAGTGGACAGTGATTTCTTAGCTCCAGTCATAGCAG  
 TGATACTTTGTGCAATGCAGACAATGCTCAGATCCCTTTGGCTAATGGACTTGACTCTCAGATATCACAAGTAGT  
 AGAAGAACGAAAGCAATGAAGGGAAAAAGAAACATGGGATACAGCAGAAAGAGACTGGAAGCTGATAGTGA  
 ATATGATGAGAGTGGCAAGTAGGGAGAAATGCAGTACATGTTTCAAAGCTGAACCTTATGCTGCAGATGA  
 AGGTTCTGGGAAGGACATAAATGTTGATGGTGATGTTGATAAAGAAATTAAGTCTGGCAAGCTTTCAAAACA  
 TTTAGAGCCCTTTGTGGATTTGTCTCTCACTCAAGGTTTTCAGTGTATGCCAGCAATCAAGAGTTTGAG  
 AGCGTCCGGCTGAATGAGACATTTTCATCATTTTCTGATGACAATTAAGATTACAATTAGACTGGGGAGAGCACTT  
 AAAAAGGAGATACAGAGTTAAGTATACCAGCTTTTGGTCAATGAACAAGGCCATGCAAGTTTCTGCTAGAT  
 GCTGTTTGTCTAAAGGAATGACTGTACGGCAATCAAAAGGAAATTAATCTCAGCTCAGGGAGCAATGTGT  
 TTAGACTCAGATTGACAGGTTTCGTCTAAGGAAAAAACAATCGAAGAACTCTGACACTGCTCTTTTGGATTATC  
 ATATTTATGAAGAGATATTAATTTCCAGCAACTGGGAGTTTCTCTGAAGTTCTTGATGGGGTAGAGAAGAT  
 GAAGTCCATGTCCAGCTTCGAGTTTGTCAAGAGGTGGAAGCCTTCAGAGATGAAGTTGGATCCCTTCCAGG  
 AGGTTGATTGGAAAGCAGTAGTGGACGAATTCGAGAGAAGCTTAGTGAATCAGTGGGATCCCTTGGATG  
 ATATTGAATTTCTAAGGTAGAGAAACATTTCCCTGTGATATTTCTGCTTGATATTCATCAGGATTTAGGGAT  
 GAATCCTAAAGTTTCAACCTGAATGCTGGCCCTTTATATCTGTGATGATGGTGGCGTCAATTTTATAGGGAT  
 AAAACAGAGAAATTAATGGAAATTGACAGATGAGCAAGAAATGAATGTAAGAAAGAAAGCAGTGCAGCTCCAG  
 AAGACTGGACATCGTTAACATACTCACCTCGTAAAGAGAAAGCACATAAAATATATCTGGATGGAGCAACCAAT  
 AAGACTCTGACTCAAGACTGA

FIG. 1P

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 ATGGGTGCCAAGGATCAGGATCGGATTCTCTCAGCTACGAGGAGGCGCTGAGGAGAGTTACAGATGTAGAGC  
 TAAACAGCTGAAGGATCTTTCAAGAGGACCTGTGACCTCTCATATTACATGGCGCAGCACGTCITTCATCCGGG  
 AAGTCTTGGGATGGAGTGCCTCCAAGGTTGCTGAGGTGATTACTGTTCTTTTGGTGAACATCCAAAGGG  
 CTGCACITCAATTAATTAAGTTGGACTTTCCTCTTCAAGAGGCGAAAGTGAAGAAAGCAAAATACATCTT  
 GTAAAGTCCAGATACACTCAGGAAGTGTCTCAGAGGGTGAAGGTAACATATGAAGAGTTAGAAATGGC  
 TTTTCTAAACAAGATGCTTTACTTCTCGATGGCTCTATCTGAGGTGTGTATGTACCTCAGCTGATGAT  
 AGTGATCTCTACTTCTACCAACTCTGGCTGGAGTCACACATTTGGAGGAATCAGACATCATTTGATGTGAG  
 AACGCTATTGGTATTGAAGGCTCAATCCGGACTGGACGATTGATTTAGAGACATTTGGCCCATTTGGTTTAC  
 CACCTATTCGTCCATCTCTAAGTGAAGGTTGTGTTAATGCTTTTGATGAAATCGTGACAATCACATAGATTTTAAG  
 GAGATATCCTGTGGGTTATCAGCCCTGTTGCAGGGGACCCCTGGCTGAAAGACAAAATTTGCTTCAAGGTATT  
 GATGTTGACCGTGATGGAGTTCTCTCAGGGTTGAACGTGAGAGACATGGTGGTTGCACTTTTAGAAAGTCTGGAA  
 GGACAACCGCACTGATGATCTCTGAAATACATATGGATCTCTCTGATATTGAGAAGGCATCTGAATGCACAT  
 GACACCACAAAGATGGGTCACTTACTCTGGAAGACTATCAGATCTGGAGTGTGAAAATGTTCTTGGCCAAATGAG  
 TTTTGAACCTCCTTTCCAGGTGTGCACATAGTCTGGGGTTAAGCCAGCTACTCCGGAAGAAGGACAA  
 ATATTAGAGGATGGTTAGAACGAGAGCAGTATGGTCTGCAAGCAGGACAACTGGTTTATCATCTCCATG  
 CAGTGTGGCAACAGTGGAAAGAAATGTGCAAAACGATGCCAACCCCTGTGGTAATTGAGCCATCATCTGTTTGG  
 AATGGAGGAAATCTATTGAACTGCAGCCCATCTCTATGGAGCAGGTGGAAGATAGAATTGGAAGCAGCCT  
 CAGTTACGTGAATACTACAGAAGAGAAATTTACAGACAACTTTCTACTGCATCTGAAGCCTCAGAACTGCTGGC  
 AGCGGCTTTCTGATTTCTGCCACACCAGGGCAGATGTTTGCTTGGCTCGACACATAACACTCTGACATAAC  
 AACCAGTGTGTTGGGAGCCCAATGGAAATTTTGTGGACCTTAACCTCAGAAACCCAGGGCTATTGATAAT  
 CAGCCATTAGTAACCAAGAACCGTAAAGGCTACATCATTAACACTAGAAGGAGACGATTAAACGAACTCCA  
 CAGCTGATTCATGGAAGAGACTATGAATGGTCCAGAACCTGTGTGGAGAGCACTTTATCAGTGTATGGAGCA  
 AACCTGGCCTTACCTAGACCAGTTTCAAGAAACGCAAGACAGACATCCCAAGCTGGAAATTATTTCCCGCTAT  
 CTTCTTCTCAGACAGCAGCTGCCACTCGACACAGCAGTCTAACATCTGGGTGAATATGGGAATGTACCT  
 TCTCCGAATGCACTTTAAAGCGGTTATAGCCTATACAGCTGTTTATGTCGAATGCAGACCATCAAGGAAAT  
 CACGAATATCTATCAAAGGCTGGCATTAAAGAGGAAGATATGCGCCTGTGGCTATACAACAGTGAACACTAC  
 CTTACTCTCTGAGTATGAGGATCAATAATTGGAATTTGAAAATTCAGGATGAACAAACCTGGTAATTGAAG  
 TTCGCAACAAAGATATGATTTGGCCTGAGGAGATGCTTTTATAGCAAAATAGTAAAAATAGATAGACACAGGT  
 TCCCAGAAAAAGGAGGCCACAGCTTAAGCAATCTGGAACACATGCTTTCATGAACTCAAGCATCCAGTGTG



FIG. 1Q

TTAGTAACACACAGCCACTGACACAGTATTTTATCTCAGGGAGACATCTTTATGAACTCAACAGGACAAAATCCCAT  
 TGGTATGAAGGGCATATGGCTAAATGCTATGGTATTTAGTCAGAGAACTTTGGAGTGGAACTCAGAAAGATGT  
 TGCCCATTTAAAGCTTCGGTGACCATAGCAAAATATGCTCCAGGTTTAAATGGGTTTCAGCAACAGGACTCCCA  
 AGAAGCTTTGGCTTTCTCTGGATGGTCTTCATGAAGATCTTAATCGAGTGCCATGAAAGGCCATATGTGGAACTG  
 AAGGACAGTATGGGGACACAGACTGGGAAGTAGCTGCAGAGGCTGGGCAACCACTCTAAGAAAGAAATAGAT  
 CAATTGTTGGATTGTTTCCTAGGGCAGCTAAGATCTCAAGTAAATGCAAGACATGTGGGCATATAAGTGTCC  
 TTAGATGGTACTACCCCTGACGGTATGGACTAAGACTGAATATGGATGAAAGTACACAGGTTTAAAAACACAG  
 CTGAGTGACTCTTGGGACTTAATTCGAACCAAAATCCTCTTAGCAGAAAGTACATGGTTCCAACTAAAGAACTTTC  
 CTCAGGACACCAAAAAGTACGACTCTCAGTGAGTGGATTGTTGTGTCATTTGAAATTCCTGTCCTCTGTCCTC  
 AATTTCAGCTTGTAGTCAACACAGACAGATTCTCCTCTTCGCCATCTACAAATGAAATGTTACCCCTAATCTACC  
 AATGGGACCTACCCSAGCAATATTCATCCCAATGGAATGCCAAACACTGTTGTGCCATGTGGAACTGAGAA  
 GAACCTTCAAAATGGAATGGTAAATGGTACATGCCATCTCTCTCAGACGCCCTTTACAGGTTACATCATTTGCA  
 GTCCACCAAAATGATGGACAGAACTGTATTTCTGTCTATCTCAGAAAGATCGCCCAAGCTCTTTGGAAATG  
 CCATTGATTGCCATGTACTGTGCATACCCGGAAGAACCTATATATGCGGTTTGGATTCAGTATCCCGG  
 TTAGCGAGCCCACTCCACCTCAGGAAGCTAGTAATCATGCCAGGATTTGTAGCAGACAGTATGGCTATCAATAT  
 CCATTCACTTACGAGTTGTGCAGAAAGATGGGAACCTCCTGTGCTTGGTGCCCATGGTATAGATTTTGCAGAGGC  
 TGTAAATTTGATTGTGGGAAGACAGAGCTTTTCATTGGAAATGCCATATCTGCTGTGGATTGGGATCCCAAGCC  
 CTTCACTTCGCTATCAACATCCAGGAAGGTTGTAGTAGCATGAGATGTGGAGCAGAGTCGGGAGC  
 GCAAGCGAGCCCATCAACCTGGACAGCTGTCTCCGTCTTACCAGTGAGGAAGAGCTAGGGGAAAATGAG  
 ATGTACTACTGTTCCAGGTGAAGACCCACTGCTTAGCAACAAGAAAGCTGGATCTCTGGAGGCTTCACCCATC  
 CTGATTATTCACCTTAAGCGATTCAATTTGTAATGGTCGGTGATTAATCACAGAAAATTTGCAAAATTTCCCTCG  
 GGAAGTTTGTATCCAAGTCTTTTGGTACCAAGACCCGGCTCTCGCCAGCATAAACCATCTCACCCCA  
 GGGGATGAGCTCTGAGCCCAAGGATGTGGCAAGGGAGGTGAAGAAAGTGATGCGCAGAGTTCCGGCTGG  
 GGAAGGAGAGTGCTCTGAGCAAAAGCCCATCCTCACTCAGCGTAAATCATCAGCAGCCCCGAAAGGTTCTC  
 CTTCTTCAAGAAAAGTGAACCAAGCTGTCCCTCCAGAAAACAGCAGCCCTAATAGCAGCCCAAGGAGATT  
 TGGGAGGAGCAAAAGGAGGCTCCGGCTGCCCCAGATTGGCAGCAAAAATAACTGTCAAGTAAAGAGAA  
 CTTGGAATGCCAAGAAAATGGGCTGGGCAGATGTGAGCTGGCTGACGCTTTGAGTCGAGGGCATGTG  
 CTGGGGGAGCAACCAAGATTGGTCACTCCTCAGGACCATGAGTAGCTTTGGCCAAATGGATTCCTTTATGA  
 GCATGAAGCATGTGGCAATGGCTACCAATGGTCAAGCTTGGAAACCAACAGATGAAGAACAGACACTGATGACC  
 AAAGAGAAGATACCTGATTAAGCCATTTAATCTATATGCAATTTCTGTCCTATTCAGAAATCTCGGGTGGG  
 CCATTACGTACTTTATGCCAAAACCCCAAACTGCAAGTGGTACTGTTACAATGACAGCAGCTGTAAGGAACCTCA

CCCGGATGAAATTGACACCGACTCTGCCTACATTCTTTTCTATGAGCAGCGGGGATAGACTATGCACAATTCT  
GCCAAGACTGATGCCAAAAAGATGGCAGACACAGCAGTATGGATGAAGACTTTGAGTCTGATTACAAAAAGTA  
CTGTGTGTACAGTAA

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ATGGACAAGATCCTGGAGGGCCTTGTGAGTTCTCTGCATCCCTGCCCCCTCAAGCGGGTGATTGTGCGGAAGG  
TGTGGAAATCGCGGAGCACTGGCTAGACGAGCGCAGTCGAGGCCCATGTTTACCTGACGACGCCGGCTCAT  
CCTGAGGGCCAGACCCCTTCCAGCGCGAGGTGGGGACCAGGTGCTGAGGCCCTACGCACGATACCAACCG  
GCCAGATTGAGTCTCTTCAACAAGACTTCTGTGGGCTCTCATCAGGGCTACCACTCTCTGGAGAG  
GAAGGATAGCCATCCTGGACTACATTACAAACGGCTGAAGCTGATTATGAGCTGTCCGTGCGGTGCGATC  
TCITTAGCCTCTGCAGGTAGAGGTTCAGGATGGTGTGAGAGCGCGAGCCGAGCTCTGTGCCGACT  
GAGCGACCTCTGACCCGACTTTGTGCAA TGCATCCCAAGGGGAAA TGTCCATCAGCTTCTGCAACAGCTGGT  
TCGAACGATAGGCCATTTCCAGTGCCTGTCACCCAGGAAGAGAGCTGCGGGAATATGTCCTCCAGGTGACAA  
AAGTGAGTAAGTTGCTGCAGAACATCTGGAAGCGGAGCTGCCACACTACTGCCCTCCCTGCAAGAAGTTTGTG  
CAAGCATCTCTCCACAGATGCATCATTTGAACCTTCTGTAGCATTTGGCAAGCCCTTGTGCAGCATATTCCTCTCA  
GATGATTACAGTCTCATCAGGAGCCCTTACTACGGATCCAAATGTAAAGATGCAAGTATGACCCAAAGCCCTTGG  
CAGAATGATTGACTGGCTATCCTGGCCATTGGCTCAGCATGTGGATACATGGGTAA TTGCACCTCCTGAAAGGACT  
GGCAGCTGTCGAAGTTTACTATTTTATGATAGTTACTTTGCTGAAAATGAACCTGGTTTTTAATCGACTTTGGT  
TTCCTCTTGTGAGACTGGTCTTGGCAGTCTTCTCACATCTGCTAGCTTTCAGCACTTCCAGAGGCGT  
CCATTGATTGTCTCATGTGGTTAATTGGTTCATCTTCAAAATATGATGGTCTGCCTTCAAGTACAGCCTTCT  
TAGTACAATTAACAGAATTTGATACACTGTATGATGATCATTTATTCGGATTCAGATCTCTATGAACCTATTCTG  
GAGGCAATAAGGATTTCTAAGCCCACTGAAGAAGATTAAAGTTAATCTCAATCAAAAGTGCCCTGGACTCTC  
AATCCAAATCTTTGGCGTCTGTGTGTAGACTTTGGAAGAACTGAAACTGGGAAAACCTGGTCTTATTAACTT  
AGGAATACATGTTATGAACAGTGTATACAAAGCTTGTTATGGCCACAGATTTCCAGGAGACAAGATTATTCCT  
TAAATCTAAATGGGTGCAATTCATTAAGAAAAATTACAGCATCTTTTGGCCTTCTGGCCCCATACAGAGAGG  
AAGCATCGCACTCGGATATCTTTGAGGCTTCCAGACCTCCATGGTTTACTCCAGATCAGAGCAAGACTGTT  
CTGAATACCTCAGATTCTCCTTGACAGGCTCCATGAAGAAGAAAGATCTTGAAGTTTCAGGCCCTCACACAAGC  
CTCTGAAATCTTGAATTGCAGTGAACCTCTTTACAGGAAGTAGTAGTAAAGCAGCAGTACCAAGAGACCC  
CTCTGACAAGTGACGGTGAGAGACTTTAATAGAAAAATGTTTGGAGGAAAACTACGAACTCACATACCTTGTTT  
GAACTGCAAGGATGACCTCAAAAAGTGGAGCCCTTACAGATCTTTGCTTTGCTTTCTTCCCTCTCTTTTG  
GAAAACATGTCTGTCCAAGATCCAGGATCATCCAGTATACAAGATGGTGGTCAATGCAAGCGCTCTGTACCC  
GGTCCCTTCAAGGAACCAAGTAGTTTATAATCCAAACAACAGCTGCGCTTCATCTGTGACTCACTTGTGAATGAAAA

FIG. 1R

FIG. 1S

CCATAGGCAGTCCTCTAATGAGTTTTACTGTTCTGAAACACACTTCTGTCCCTAACGNAATCTAACAGATTCTTGT  
 TAATAAGATGTACTCTAGAACGAGGAGTGAACACACACTTTCAGTAATCTGACTTACTAAATATATTTTTGGCT  
 CCAGAGATCTTACTGGTGATAACCAATATTATTGAAAACTTGGCTCTCTGCAAAATGCTGAGAAACTATGCG  
 AAATCACGGAGAACCTGAATACCTTATTTCTACTCTCTGAGATTTTCATATGATCAGAAGTATCATGTGAGAAG  
 GAAATTTTAGACAATGATCACTGCCACTGGTTTGGAGTTGCCAGTTAAAAAATTTACTTCTTCTCTTCTTCTTCT  
 CAGAAAGTTGGCTGTAGATTGACTTCGACTGATCTTAGTGAGAACCTTGTAAAAAATTTAAAGCCTTCAGGGAC  
 TGATGAAGCTTCCTGCACAAAATTTGGTGCCCTATCTATTAAAGTTCCGTTGGTTCACCTCTGTTATCTCTGATATCTCTGAA  
 AGTGGCATTAATCTTATGCCAGAAATACACAAGTACAGACTCTTCATATCAGATGATCCACCAGCTCTGAGG  
 CTCTGGCATTAGCACTCCAGAGTCATTACTAGGGAGAGATGTCACGAGCTTTTGAACAGGATTGG  
 AAAATAGGAAATGTCAAAAGATGGTTTTATTATTAATGACAGTAGAGTGACATTTACTTTCATTCAGTCAGCTCCAG  
 AAAATTACGACGAGTTTCCAAAGACACAGCTTATGTGCTTTTGTATAAAAACAGATAGTACTAATGGTTTAA  
 GTGGTAAATACCCACACAGTGGACTCTGGATAAATGGAGACCCACCTCTACAGAAAGAACTTATGGATGCTATAA  
 CAAAGACAATAAATAATTTACAGGAACAAGAGTTGAATGCTCGAGCCCGGCCCTCCAAAGCTGCATCTGCTT  
 CATGTTCTATTTCCGCCCAATGGATTTGATGACAACGACCCAGGAAGCTGTGGACCAACTGGTGGAGGGGGT  
 GGAGGAGGATTAATACAGTTGGCAGACTCGTATTTTGA

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ATGGCCCGCGGCTGCACTGGAGAAAGCGGCTGGGCTGGGGGAGACGGTGGCGGCCGAGGAGGTGTC  
 GCAGGAGCATATCGAGACCGCTTACCGCATCTGGCTGGAGCCCTGCATTGCGGCGTGTGCAGACGAACTGC  
 AAGGAAATCCGAATGCTTGGTGGTATTGGTAGCATAATTGGTTAGGAGAAATAGATGAAATAGTTTTTCATA  
 ACATCGATGATCCCAACTGTGAGAGGAGAAAGAACTCATTTTGGGCGCTGACTAACCTTTGGAGCCACTTGT  
 ATGTCAACACATTTCTCAAGTGTGGTTCTCACTTGGAGCTTCGGCAGGCACCTCTACTTATGTCCAAAGCATTG  
 TAGTGACTATCTGTGGAGACGGCTCCAGAGAAAGAAATATTAGCCTCTCAACAAATTTGTGAGCATCTCCA  
 GTACTTGTGCTTGTGCAAAACAGTAATAGCGGATACATTGATCCATCAGGATTTTAAAGCCTTGGGCGCTG  
 GACACTGGACACAGCAGGATGCTCAAGAAATTTCAAGCTTTTATGTCTATTTGGAAGATACTTTGTCTTAAAC  
 AAAAGAAATCCAGATGTGGCAATATTGTTCAACAGCAGTTCTGTGGAGAAATATGCTATGTAACTGTTTGCAACGA  
 GTGTGGCAGAGTCTAAGCTTTTGTCAAAATTTATGAGCTGAGATTAAATATCCAAAGGCCACAACAGATTAA  
 GATTATCTCGGAATTTTGAAGGAAGAAAAATTAGAAGGAGACATTCGCTATTTTTCGAGAACTGTCAAAGCA  
 AACAGAAATGCAACAAGAAGATTCGACTTCTAGCCTTCCCTTGCACTGTGAACCTTGACGCTAATGCGTTTTGCTT  
 TGACAGGCAACTTGACATGAAGAAAGTGAATACCTACATTCGCTCTCAAGAAATTTTGGATTTGAGGCTTAT  
 GTGGAACATAAAGGTGGTGTACGTGTATGAACCTCAGCGAGTCCCTCATACAGAGAGGTGAGTGTCTTATCT  
 GGCCACTACATCGCCACCGTGAAGAATCCACAGTCTGGTGAATGGTATAGTTTAAATGATGAAGACATAGAAAAG

FIG. 1T

ATGGGGGGAAGAAATTCAACTAGGATTAGGAAGATCTAGAACCTTCTAAGTCTCAGACACGTAACCCCAAG  
 TGTGCAAGAGCTCATGCTCGAAGTGATATGTTGGTTTATAGCTCGAACCTCAAGAAAGGCTTCAACA  
 CTACTGTTCAAGTTCTCGAGCTTCTCGAAGCTGGTAGCTGGGATAATTCCTCAAAATTTGAGGAGTGGTGTATGA  
 AATGGCTGAGATGCGTAAGCAAGTGTGATAAAGAAAGAAACAAACGAGGAGGTTAAGGAGCTGTACCAAA  
 GGTACCTGCTGGAGCTGAGCCCTATGATTGCTCTGGAATGGCTGCAAAAGTGTGGATGAATCAACAC  
 CTACCAACCTTGATATACTACCGTTGCTGTGCCATGACAAGCTTCACCGGATAAAATATCAATTTAGAA  
 GAGGATATCTGAATTCGAGCTGACATTTCTATAGTAGATGAGGAGGTCCAGAGCTAACTGTGAAGGCCCT  
 GTGAAGGAATGTGTAGTAGAAGTGTGCGCATATTCGCTGAAGAACCACTAAATGAAGATTATAAACTGTT  
 AATAATCTGCGTGAAGCAGCAGTAAGGGCGATGGATTTCGGTGGGAAGTCTCTTCGCGAGTTGGGCCA  
 GCTAGCTTTGAACAGCTGGATGAGCAAGATGGTGTGACGACAAACGCAACGGAAGATGAACGGTGTAGCACCT  
 TAAATAAAGATGAATCAAGGGAAGAAAGAAAGAGGAGAAATTAATTTAAATGAAGATATCTGTGTCACAA  
 TGGTGAGTTATGCTATCTGAAATGAAGAGGCTTGTTCTTAAGAGGCTTGGAGCAAACTGCGACGAGTACTT  
 TCCAAGGCTCTGAGTTTCCAAGTTCAAGAAGTGTCTACAGTGCAGAATTTAGAAAGAGAGGGGAAGA  
 AAATGAAGCCCTTACATAAGATGATTGCAACGAGCAAAAGACTTCTCCCAATTTGTTCCAGGATAAAACACAGA  
 CCGTGTCTCAGTAAGTGGCCAGGATACGGATGTCCTCTACATCGTCTCAGTCTTTGTAGAAGAGTGGCG  
 GAAATTTGTGAAGGCCCTACAAGATGCGCCCTGTCTCAGTTGGGAACAGTGCCTTTTGTGTCGCCACGG  
 GGGCCTCATGTTTACATTTGCTCCATGACCAAGAAGATCTTAACTTATAGCTCTCATATGGCCCACTGAGTGG  
 CAAATGATACAAAAGCTCTTTGTTGGGATCATGTAAATCAAGAGATTTGAAGTGGGAGATGTAAACCCCTT  
 CAGAACACAGTATATTTCTGAGCCCAACTCTGCCAGAAATGCAAGAGAGGCTTATTGTGCAGCAGCAGAGGG  
 ACCTGGTGAATACACTCAAGCCACCATCTATGTCCTAAAGTTGTGGATAATAAAGGTGATGAAGGATTCGG  
 CTCGGAACCTGAAATGTGAGTAGTTCTGAACAGAGGAGGACAAAGGAAGCTAAACCCAGATGGAGAAAAAGAT  
 CCAGATTITTAATCAAGCAATGGTGGACAAACGCGCAAAAGATATCCCATCAAAATATATAGCCTATCAAAAGC  
 AAGTTATTCGCGGAAGTATGCGACATAGAAAAGTTGCGTGTGAGAAGCAGCTTCCTGTTCTCTTAATCAGACGT  
 TAAAGAAATTTGAATAATTCAGATCATGCTATTTGCTCTTTGACCCAGAAATTTGCTCAATGTGGAAG  
 ATTTTAAGTGATGACTGTGCCACCTAGGCCCTTGGCGTCAATCTGAACTGTCTATTTATTGAAGCTGTATG  
 AACCAATTGCAGATTATGCTGCAATGGATGATGATGCAAGTGTGATGCCAGAAAGGGGTTTAAAGGTTACTG  
 GCTCTCTTGACATTAA

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ATGCTGAGCTCCGCGGCGAGCGGCGATGCCGGGCCACAGGGCCATCAAGCGCTTCCTGCGGACCGGG  
 GCGGCGCTCAGATAAAGTCAATGAAGAACTGGGAGTTATAGTGGAAATTCGTGCTCTTCGACGACGGAAT  
 ATATGTTATTTGGGGTCCCATTAACAGAAAGAAAGCGTAGAAAAGGGCTTGTGCGCTGGCCCTTGTTAATTTAGG

FIG. 1U

GAACACCTGCTTCATGAACCTCCCTGCTACAAAGGCCCTGCTCGCTGCTCCTTTCATCAGGTGGCTGGAAGAGTT  
 CACTCCAGTACTCCAGGGATCAGAAGGCCCTCCCTCACACAGATTTATCCTTAACACTCTTGCAACCTTCT  
 GAAAGCCTTGCTGCCAAGAGTTACTGATGAGGCTTAGATGCAAGCTGCTTGGATGCTCTAAGAAAT  
 GTACAGATGGCAGATCATATTTGAAGAACAGGATGCTCAAGATTTTCCATGTGCTATACCTCGCTCATGGAA  
 GATGAGCAGACGCCAGCTCGGGTCACACATTTGTTGATGTGCTTCCCTGGAGCAGCATCAGAAATTAAC  
 TCCCAACAAATTAACCTGCGCAGAAAGGGTCACTCAACCCACATCCAACTCACTGGAAGCTCAACATCCTTT  
 TCATGAAGACTACTGATTAATATGGTTCGAAACACTGTGAACACCAAGCTCTGTTGATTTGATATCTTGTAT  
 AGCCTTCACTAAGTATTCAGCCGCCACATGGGGTACCCCATGACCTGGACCACTGCCCTCACCACCTCATC  
 TCATCAGAATTACAGTGGGGATGTTGTGTGAACCTGTACAAGATTTGAAGCAAGGGAACGTTGAACGGGA  
 AAAGGTGAACAGCAGAGACCACCTTTTGTAAACAGTTAAACAGTAGGGAAGCTCCCTCAGTCTCTGCATCCA  
 CTACAGCGGTGAGCTGGTCCAGCGGACCGCTTGAACGGGCTAGACAGCTGCAGTTCAATGAGTTT  
 CTGATGAGCACTTACAAGTACCACCTCCTTGGACATAAACCTAGTCAACACACCTTAACCTGAACAAGAAC  
 CCAGGCCCTACATGAGCTGCAGGATGGCGGGAGCCCCACACAGTCTGAACTCAGCCAGGGGCCCTC  
 AAACACAGATTTTATGAATGGGCTGCTCCCATCTTTATGGCAACGCTGCAGCGCCGATGCCCTTCCCT  
 CTCACGTTGTTCCGACTACAGCTCTCCACATAGCTCTTCGGGCTGATGGCAGTTGTCTGCCACCATGGAGA  
 CATGCACTCTGACACTTTGTCACTTACGACGGTCCCACTTCTGCCAGAACCTCTCTCAACTAGCAATCA  
 GTGGCTGTGGTCTCCGATGACACTGTCCGCAAGGCCAGCTGCAGGAGTCTGTCTCCAGCGCTACCTG  
 CTGTTCTACGAGCGCGTCTTTCCAGGATGACGACACGAGCCAGGAGTGAAGTCTGAAGAAATGA

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 ATGACCTGGCCCGCGGGACCGGACGAGAGGGGACCGCTCGCGCCCGCGCCCGCGCTCCCTCCTCCT  
 CGCCCGCTGTTACGCCGCTTCTGCTGGCGTGGGACGCGCTCACGCCCGCGGGACTCACCGCCCGCGCC  
 CCAGCGGGACACTGTATGGCGAGGTGAGGGGGCTTCGCGCTCGCCCGCGGCCAGTTCACAGCGGCC  
 CGGAGCCCGGGGAGAACGCCCGCGGACCCGACCCCACTCCAGCTCCCGCGCGCATGGCGGCG  
 GCGCGCGCGCTCAGGGCTTGAAGAACCCAGGCAACACTGTTTCATGAACGCGGTGGTGCAGTGTCTCAG  
 CAACACGAGCTGTGGCGAGTTCTGGCGTGGGCGCTACCGGGCGCTCGCGCGCGCGCGCGGTTCAAG  
 CGAGCAGCTGGCGGCGCTGTGCGCGGCTCTGGACTCGGATACACGCCCCCACTTTCCGCGGAGTTCAAG  
 AATGCAATTTCCAAGTACGGCTCTAGTTCCAAGGCAATCCGACACGACGCGCTGGAATTCCTGCTGTGTTG  
 CTGGATCGTACATGAGACCTGGAGGTTTCATCCCGAGGGCGCGGTGTCCGAGAAGCTTCGCGCTGAAGCCA  
 CTAAACCTCTGAGAACTCCCTGCTACCTAGCTGCTTCTAGGTGAAGCTTTGTGCAAGGCCATTTT  
 AAGCACAATAGACTTCTGACTTGTCCCACTGCCTGAAACAGACCAACCTTTGATCCTTCTGCTGTGT  
 GTCCCTACCTATCCCTTGGCCAGACGAGGTTCTTGAGTGTCACTTGGTCTTCCCTCTAAGAGCCAGCGGT

FIG. 1V

TCCTGGGGTTGGCCTGGCCGTGCGGATCCTCAGCACAGTGGCAGCCCTGAGGAAGATGGTTGCAGAGGAAGG  
 AGCGTCCTCTGAGATGAGTGTATCTGGTTGAAGTGTATCCAGCTGGATCCAGCGGTCTTCTTTGATGAAGA  
 GGACCTGAATACCATCGCAGGGGAGATAATGTGTATGCCCTTCAAGTTCCCTCCCTCACCCAGCCAGGGGACCTC  
 TCTAGCTATCTACCTGGGTCTGGCCCTCCCCACGCTGGCAGCCGTTGAGGGCCAGCGATTCTCCCTCTCT  
 CTCACAGTGAGCAAGGTGCTAATCCTCTTCTGTAACTTGGTGGGTGAGGCAGCAGCAGCTAGCAGGTTGG  
 GCCACCTCTCTGATAGGGAAGACAGAGCTGTTTCTGGGCCAGCTCCAGCAGTCTATCTCCAGCAAGTCC  
 GGCATCTTATGAAGTGGGCGCCTGTACAGAACTGGGGTCTGTGTTCTCCATCCGTGTGGGACCTCTCT  
 GTGGCCTGCAGCTATTGTCTCCGAAGACAGTCCGCCCTCTGTCACTGGGCAGTTGACAGGGTTTGCATCT  
 CAGGAGCGAGGCGCCCTCCACATGTCAAGCTGGGTGGATGGGATAGCTGTCAAGGAGCGCTGTTT  
 GGGAGCCTCCAGGAGGACGCGCAGGATGCCACAGTGTGTGSCAGCAGCAGCGCGCATCAGCAGCAC  
 AGCTGACCTTGGATGAATGTTTTCAGTTCTACACAAAGGAGGAGCAGCTGCCCAGGATGACGCTGGAAGTG  
 TCCTCACTGCCAAGTCTGCAGCAGGGGATGGTGAAGCTGAGTTTGTGACGCTGCCTGACATCCTCATCTCC  
 ACCTCAAAAGGTTCTGCCAGTGGGCGGAGAGAAGAAAGCTCTCCACGCTGGTGAAGTTTCGGCTCTCTGGA  
 CTCACATGGCTCCCATGTGGCCAGAGAAGCACCGCCTGAGCGAGGACTGGGCCCTGGCCCTTCCTGGA  
 AGCAGCGGACTGCTGCCACCAAGTACCCTGGACTTCTGTACGACTGTATGCCGTCTGCAACCCACCAT  
 GGCACTGCAAGGTGGCAATTACACAGCTACTGCCGGAATCTCTGGATGGCCAGTGGTACAGTTATGTA  
 CAGCAGGTGGAACCGCTTCGAGAAGATGAGGTCAACACGAGAGGGGCTTATCCCTGTTCTATCAGAAGCGGA  
 ACAGATCCCTCCCTGGTCAGCGCAGCTCCATGAGAGCTCTACAGCTCCCTCCCTGTCTGATCACTGGCTC  
 TTACGCTCGGAGCCACGCTGGCAGCACAAAGGGAGCCTGCTGTCTGGAGCTCTGCCCTGCCCTGCCCTCCC  
 TGCCCAGGTTCTGACTCTCCATCTTACCACAGCCTCTGCAATCAGGAAAGGGAGGTTGGAGCCAGG  
 CGTTTGGTACGGGGCGTGAAGGAGAGCAATTAGCATGAAGGACCCACCACTTCCGAGCCAAAGCAGGGAC  
 CATTCAAGACCATGCCTCTCGGTGTCTTTGGATCCAAGAGAAACCAACAGGTGCCCTCCGTCGAGTTGGTG  
 GAGATTGGATTCAGACGAACTCGGTCCAGCGAGCTTGTGTCGTGTTGACGGGACTGGG  
 GTGAGGATGAGAATCAGCATCGCCGAGGTCCAAGTCCGCTTCTGCTAACGGAAGATGGTGGCGGGC  
 CATTGAAGAGGTCAGCCGGGTGCCCTGTCCCTCGGCTCAACCAACCACTGTCTGGCCCTGGAACCTCA  
 GGCTTCCAACACAGCAAGAACTCAAGGAAATGCAGGGCAGACATCAAGCTTCCAGAAAGTTGACCT  
 GACTCTCACTGTGATGCCTTCAAGTGGAGCATGAGAAACCAAGCTGCAGCGAGGGCCAGAGGCCATGAACCTGG  
 AAGGAGACTTCTCAGATTGGGAAGCAAGCAGCCACCTCCCTCTATATGGGATTCCTGGAAACAGCAAGA  
 CAGTCGCCGAGGACCTCTGAGCTAGACAGACCCCTGCAGGGGACACTCACCTCTGAGGTCGGTTCGG  
 AAGAGGAGCAAGAGGAAATGAGAGGGAGGAGTCTCTCCAGAGTCCGCCCTCTCCCTGGTGGTGGCG  
 GGGTCCCTTGCCATGGACGGGACAGCTCCAGGCTCACTCTGCCCTCAGGATCCCAAGAGGGCCTGGCCA  
 GGGCCCTGGGACGCGCTCGAGAGGGATGTGTGTCAGCCCCCAGCTCTCTCCGCTCCCTCGTAAAGCCA

FIG. 1W

GCAGGGCCCCGAGGCGAGTGCAGCTGGGCATGTCACAAAGGAGCTGTTCCAGGGGAGCAGGCTTCTTATGGCAC  
CTTTTCAGAGAGTCAAAATATACACACTCTTTCTTAGGTCGAAAGAAAACCTTACCAGGAGTCCAGCTTTTGA

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CATAAGGATGGGACTTTGTTGAGGGCTATTTCCTCATTAATTTTCTGACCAAGAGGATCGCCACTCCTTACCC  
CAGAGACACAAACACAGCTCGCTGCACAAATTCATCGAATTGGACAGACCTACTTGACATGCAGATGCATGC  
TCTGCTACACAGCCCCACTGTGGGGTGGCTGATGGGTGCACACCTCCATCTCGCCAGGAAGATGCAAGTGG  
AATAAGCACACTTAATCTACAGGATTCAATTACCCACATGATTAAGCCATCCGCATCCGCATGAAGACAGATATAT  
ATAATGCTTTCCATCTGAGCAATGTGACCCCTTTGATATCCAGCAAGTCAGAA TGGAGATGCAGACATCA  
AGTTTCTTTTCGCGATGGGCCCATGAAGATGGTGGCCCTTTGATGGGCCAGGCTGATCTTAGGCCCATGCC  
TTTTACCAAATTCGGAATCCCTGGAGTTGTCCATTTGACAGAATGAACATGGTCAGCTTCAGACACTGGAT  
ATAATCTGTTCTGGTTGCACTCATGAGATTGGGCATTTCTTTGGGCCCTGGAGCACTCTGGGAATCAGAGCTCGA  
TAATGTACCCACTTACTGGTATACAGCACTAGAACCTTCAGCTCAGTGCCGATGATATCCAAAGGATCCAGC  
ATTTGATGAGAAAAAATGTTTCATCTGACATACCTTAA

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AAATAAAGAAAGGACACAGATTTGGTAGATGGTTGCAAGAGGAAGCAATCCATGATGAAGGAATTAAGGAGCT  
ACAAGCGTTCTTTGGCTCCAAAGTCAACGGGAAGTTAGACCAGACCAACAATGAACGTGATCAAGAAAGCCCTCGCT  
GTGGAGTTCCTGATGTGGCCAATTATCGCCCTTCCCTGGTGAACCCAAATGGAAAAAATACTTTTGACATACA  
GAATATCTAAATACACACTTCCATGAGTTCTGCGAGTGGACAAGCGAGTGGAGATGGCCCTTCAGGCCCTGG  
AGTAGCCGCTCCCTCTGAGCTTTGTCAGAAATAACTCAGGAGAACGCGGATATTATGATATCTTTTGAAGATGGA  
GATACGCGGGATTCTCTATCCATTGATGGGCCCTGGGGGACTCTAGCCCCATGCAATTTGCTCTGGAGAAGGCCT  
GGGAGGAGATACAAATCTTGACAAATCTCTGAGAGTGGACTTGGAAACGAATGGTTTTAATTTTACCGTTGC  
TGCTATGAATTTGGCATGGCCTGGCCCTGGCCATTCCACAGACCCATCAGCACTGATGATGCCAACTTATAA  
GTACAAGATCCCTATGGATTCCACTCCCAAGATGATGTAAGGGATCAGGCAATTATACGGACCTCGGA  
AGTATCTCGGGGAAGCCACTCTGCCCATGCCCCCATCACAAGCCATCCATCCCTGACCTCTGTGACTCCA  
GCTCATCTTTGACCTGTGACAAATCTGGGGAAGGAGCTCTGCTTTCAAGGACCGGATTTTCTCGAGACGG  
CAGGTTCATCTCGGACAGGAATTCGGGCCAGCACTATACAGCTCCTTCCGCCAGCTCATGTCCAAATGTGGA  
TGCAGTTACGAAGTGGCTGAGAGGGGCACTGCTTACTTCTTCAAAAGGTCCCCACTACTGGATAACAAGAGAT

TCCAAATGCAAGGTCCTCTCGGACTATTATGACTTTTGGATTTCCAAAGGCAGCTGCAGCAATAGATGCTGCTG  
 TCTACCTCAGGGGACACAGACCCTTTCTTTGGGAGATGAATACAGCTACGACGAAAGGAAAAGG  
 AAAATGGAAAAGACTATCCAAAGAACTACTGAAGAAGAAATTTTCAGGAGTAATGCCCAAATCGATGCTGCTGTA  
 GAATTAATGGCTACATTACTTCTTTTCAGGACCAAAATACAAAGTATGACACAGAGAAAGGAGATGTGGTTA  
 GTGTGGTAAATCTAGTTCCTGGATTGGTTGCTAA

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 AAGACACACCGAGCCCGTAGAGGGGGCCCTCCCGGACGCCATTGGAGTGGGATTCAGAGAGGGGA  
 CAAGACAGCTGTAGGCTCAGCAGCAGCTGGAGCTGGCTTTAGCAGGTGCGCTCTACTGCTGGCTGCACTG  
 CTTTGGGCTGCCCTTGTGGCCCTAGGGTCCAGTACACAGAGACCACTCCACAGCACCTGCCCTTACAGAG  
 CCTGCAATTCGAGTGGCTGGAAAATCCTCGAGTCCCTGGACCGGGGTGAGCCCTGTGAGGACTTTTACCA  
 GTTCTCTGTGGGGCTGGATTGGAGGAACCCCTGCCGATGGGGTTCTCGCTGGAACACCTTCAACAG  
 CTCTGGGACCAAAACGAGGCCATACTGAAGCACCTGCTTGAAAACACCACTTCAACTCCAGCAGTGAAGCTGA  
 GCAGAAGACACAGCGCTTCTACCTATCTTGCCTACAGGTGGAGCGCATTTAGAGAGCTGGAGGCCACGCACTG  
 AGAGACCTCATTTAGAAGATTGGTGGTTGGAACATTACGGGGCCCTGGAGCCAGGACCAACTTTATGGAGGTGT  
 GAAGCAGTAGCAGGGACCTACAGGGCCACCCCACTTCTCACCGCTACATCACTAGTCTAAGAGTTCCA  
 ACAGCAATGTTATCCAGGTGGACCACTGTGGCTCTTTCTGCCCTCTCGGATTTACTACTTAAACAGAACTGCCA  
 ATGAGAAAGTGTCACTGCCTATCTGGATTACATGGAGAACTGGGATGTCTGGTGGGGCGGCCACCTC  
 CACGAGGAGCAGATGCAGCAGGTGCTGGAGTTGGAGATACAGCTGGCCACATCAGATGCCCGCAGGACAG  
 CGCGCAGCAGGAGAAGATCTACACAAAGTAGCATTTGGAGCTGCAAGCTCTGGCGCCCTCCATTGGACT  
 GGCITGAGTTCCTGCTTCTGCTGCACCATTTGGATTGAGTGACTCTGAGCCTGTGGTGGTGTATGGGATGG  
 ATTATTTGCAGAGGTTCAGAGCTTCAACCGCAGCAAGCAAGATCTGAACTTTACCTGATCTGGAAC  
 GTGTGCAAAAGACAACCTCAAGCTTGACCGACGCTTTGAGTCTGCAAGAAGAGCTCTGGAGACCTCTAT  
 GGCACTAAGAAGTCTGTGCGGAGTGGCAGACCTGCATCTCCAACAGGGATGACGCCCTTGGCTTTGCTT  
 GGGGCTCCTCTGTGAAGGCCAGTTTACCGGCAAGAGAAATTCAGAGGGGATGATCAGCGAAATCC  
 GGACCGCATTTGAGAGGCCCTTGGGACAGCTGGTTTGGATGGATGAGAAGACCCCGCAGCGCAGCAAGAGAA  
 AGCAGATGCACTATGATATGATGTGTTCCGAGCTTTATCTGGAGCCCAAGAGCTGGATGATGTTTATGA  
 CCGGTACGAAATTTCTGAAGATCTTCTTCCAAAACATGTTGAATTTGTACAACCTCTCTGCCAAGTTATGGCT  
 GACCAGTCCGCAAGCTCCACCGCAGACAGTGGAGCATGACCCCTCCAGACAGTGAATGCCCTACTCTTC  
 CAACTAAGAAATGAGATGCTCTCCCGCTGGCATCTGCAAGGCCCTCTATGCCGCAACCCACCCCAAGGCC  
 CTGAACCTCGGTGGCATCGGTGTGGTCAATGGGCCATGAGTTGACGCATGCTCTTGTATGATGACCAAGGGCGCGAGTA

FIG. 1X



FIG. 1Y

TGACAAAGAGGAACCTGCGGCCCTGGTGGCAGAAATGAGTCCCTGGCAGCCCTTCGGAAACCACACGGCCCTGCTGC  
 ATGGAGAACAGTACAAATACAGGTCAATGGGAGAGGCTCAACGGCCGCACAGACGCTGGGGAGAAACA  
 TTGCTGACACGGGGGCTGAAGGCTCCCTACAATGCTTACAAAGAGTGGCTGAGAAAGCATGGGGAGGAGCA  
 GCAACTGCCAGCGTGGGCTACCAACACACAGCTCTCTTCGTGGGATTTGCCAGGTGGTGGCTCGGTC  
 CGCACACAGAGAGCTCTCACAGAGGGGCTGGTGACCGACCCACAGCCCTGCCGCTTCGGCGTCCGGGCG  
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 GTGTAGGTTGGTATG

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ATCCGGAGAAAGAGGCCCTTCGAGCGGCTGCCTGCCGATGCTCCCCCAICAACATGACGACCTTTGCCTCAAGC  
 CCGACTTGTGGACTTCACTTCGAGGGCAAGCTGGAGCGCGCGCCAGGTGAGCGAGCGGACTAATCAGAT  
 TGTGATGAATTGTGCTGATATTGATATTATACAGCTTCATATGCACAGAGGAGATGAAGAAATACATGCTACA  
 GGAATTAACATACAGATGAAGATGAAGATCACTTGCTTCCCTAGTACTCTGCAACAGGTACGGGAACCT  
 TAAAGATAGATTTTGTGGAGAGCTGAATGCACAAATGAAAGGTTTCTATAGAGTAAGTATATACCCCTCTGCG  
 AGAGTGGCTATGCTGCTGAACACAGTTTGAGGCTACTGATGCCGGAAGGGCTTTCCCTGGCTGGGATGAGC  
 GTGCTATCAAGCAACTTTTGATATCTCATTTGGTTGTTCTTAAAGACAGAGTAGCTTTATCAACATGAATGTAAT  
 GACCGAAACCATACCCTGATGATGAAAAATTAGTGAAGTGAAGTTGCCGACACCTGTTACATCTACATAT  
 CTGGTGGCATTTGTTGGGTGAATAGCTTTGTAGAAACAGGTCAAAGATGGTGTGCTGTGTTTAC  
 ACTCTGTTGGCAAGCAGAACAGGAAAAATTGCAATTAGAGGTGCTGCTAAAACCTTGCTTTTATAACGACT  
 ACTCAATGTTCCCTATCCTACCTACCTAAATGATCTATGCTATTCGAGACTTTGCAGTGGTGGCCATGGAGAA  
 CTGGGACCTTGTTACTTATAGGGAGACTGCATTGCTTTATGATCCAAAAATTCCTGTTCTTCATCCGCCAGTGG  
 GTTGCTCTGGTGTGGGACATGAACCTGCCCCATCAATGGTTTGGAAATCTTGTTACTATGGAATGGTGGACTCAT  
 CTTTGGTTAAATGAAGGTTTGCATCTCGAATGAATATCTGTGTAGCACCCTGCTTCCAGAGTATGATATTT  
 GGACTCAGTTGTTTCTGCTGATTACCCGCTGCCAGGAGCTTGACCGCTTAGATAACAGCCATCCCTTATGAAG  
 TCAGTGTGGGCCATCCATCTGAGGTGGATGAGATATTTGATGCTATATCATATAGCAAAAGGTGTCATCTGTGCTATCC  
 GAATGCTGCATGACTACATTGGGGATAAGGTAAAAAATAAATTTAAGATT

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ATCGGCGCCGCCCGGATTGCGCTGTGGCTGCGCCCTGGTCTTGGCCCTGGCCCTTGTCCGCCCCCGGCGCTGTG  
 GGTGGGCCCGCCGCTCCGAGCCCACTATGTACAGAGCTGGCGCGTCCAGGTTGCCAGGGTAAACCGGGAG  
 GTCGAGCGCCTGGCAGCGAAATTCGGCTTGTCAACCTGGGCGGATCTCCCTGACGGGAGTACTTTCACCT  
 GCGGCAACCGGGGCGGTGCTCAGCAGTCCCTGACCCCGGACTGGGGCCACACCTGCACTGCAACCTGAAGAAAAACCC

FIG. 12

CAAGTGGAGTGTTCAGCAGCAGACGCTGCAGCGGGGGGTGAAAGCTCTGTGTTGGTGTGCCCCACGGACCC  
 CTGGTTCTCCAAAGCAGTGGTACATGAACACGAGGCCAACACGACCTGAGCATCTGTGAGGCTTGAGTCTAG  
 GGGTGTACAGCCAGGGCATCTGGTCTGTGTGACGATGGCATCTGAGAGGACCCACCGGAGCCTCTGG  
 GCGAACTACAGCCCTTGGCCAGTATGATCAATGACTACGACCGGACCCGACCGCCGTACACCCCA  
 GAAAGAAACCGGCACGGACCCGCTGTGCTGGGAGGTGGCCGGATGGCCCAACAATGGCTTCTGTGGTG  
 TGGGGTGGCTTTCAACGCCGAATCGGAGCGTACGATGTGGACGGTACCATCAGCGTCCGAGGACGACGGCGG  
 CCAGTCGTGAGCTGCAGCCGACACATCCACATTTACAGCGCCAGCTGGGTCCGAGGACGACGGCGG  
 CACGGTGGAGCCCGGCTCTCACCGGAGGCTTCGGGGTGGTGTGACCAAGGGCCGCGGGGGCT  
 GGGACGCTCTTATCTGGGCTCGGCAACGCGGCTGCATCAGCAACTGCAACTGCGACGGTACACG  
 AACAGATCCAGCTTCGTGGGACGACACCCAGGAGGCGGCTGCCCTGGTACAGCGAAGCTGGG  
 CCTCCACCTCACCAACACATACAGAGCGGTGGCCACGACCCGAGATGCTACACGACGCTGCATCA  
 CGGGTGACAGACGACGAGGACCTCGGCTCAGCCCCACTGGCGCGGCGCATGATCGGCCCTAGCGCT  
 GGAAGCCCAACCCGTTCTGACGTGGAGACATGACGACCTGGTGGTCCGGCTCCAAAGCGGGGACCT  
 GCAGGCGGAGCTGGAGACCAACGCGTGGGCGCCAAAGTGAGCCATCACTACGGATACGGGCTGTGGA  
 CGCGGGCTGTGTGGACACCGCCGACCTGGTGGCCACCCAGCGCCATCACTACGGGAAACGATCGGCTGCGCGGCTCCAC  
 CCAAGCGCCCAACCCCATCTCTCGCTGATCTACATGAGGAAACGATCGGCTGCGCGGCTCCAC  
 AACTCCATCCGCTCGCTGGAGACGTGCAGCGCAGCTGACGCTGTCTACAGCCGGCGGAGACCTGGAG  
 ATCTCGCTACGACGCCATGGGACGCGCTCCACACTGTGGCCATACGACCTTGGACGTGACGACTGAAG  
 GCTAACAACTGGGTCTTATGTCCACCCACTCTGGGATGAGAACCCACAGGGCGTGGACCTGGGCTTA  
 GAGAACAGGGCTACTATTTCAACGGGAGCTTGTACCGCTACACGCTGCTCTATGGGAGGCGCGAGG  
 ACATGACAGCGCGCTACAGGCCCCAGGTGACGACGCGCTGTGTGACGCGGACACAGAGGGGTGT  
 GCGAGGCTGTGACGCGCCCGCTACATCTGGGACAGCTGTGCTGGCTGGCTACTGCCCGCGGTCTTCTCAA  
 CCACAAAGCTGTGACCGCTGGGCTGGGACACGCGCGCGCTGAGGGTCTGTCCAGCTGTCCAGCTGCCA  
 TGCTCTGTACACCTGCGCGCGGCTCCCCGAGGACGTGCACCTCTGTCCCCCATCTCCACGCTGGAC  
 CAGCAGAGGGCTCTGTGATGGGACCCACCCCGACGCGCCCGGCTTAGAGCTGCGGCTGTGCC  
 CACCACCGCTGCCAGCCTGGCCATGGTGTGAGCCTCTGCGCGTACACCTCGAGGCGCGCTCTCTGC  
 GGCATGTCCATGGACCTCCACCATATACGCTTGGCTCTCCGCTGCCAGGGGCCACCCCAACCCCAAGGCTCT  
 GGCCTGCCAGCTGGAACCTGA

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 GGGCCCGGACGAGGGTGGTGGCAGGGAGGCGTAGCACCTGCTCTTCCCTCCGCGCTCCCTCAGGGCC  
 AGCGCGCCAGGACCCGAGCGAGCGGATGGGAGCCGCCACCTGTAGGGGCTCCAGGATCCCCAGGGGCC

FIG. 1AA

CCCAGTCCAGGGGAACGAGTGGCCCCCGCTTGGTGTTACTTCCCTCAGCCTGTGCCAGCGGACTTCAAG  
 GATAACTGGAGGATTGCCGGCTCCAGACAGGAAGTGGCCTGGAGGTGAGCTGCAGACCAGCAACAGACAC  
 ATCTCGGGAGGCTCCCTATTGCCGACACACTGGTTATAAGAGGACACACACCAATCCAGTTTGTGGTAGCCG  
 TGGTGTGGAGGATTGGAATGACCGCCATTGGCCCTGGGAGTGAGCTCGGATGGAATGAGACAG  
 TGTGTGAGGGGGCCCTCATGACCCAGCTGGTGGTGAAGTGGCCCTCAGCAGGACCCCAAGAGTA  
 CTCAGTGGTGTGGACCTTCAAGCTGCAGCCATGAATTCAGCAGGGCCCTCTGGGTCCCTGTGAGGGAC  
 ATCATTTGACCCCAAGTACTGGGCCGGGCCCTTCATCTGAGTGGTGACGTGCCCCTTCCACCTTTCAACACCT  
 GTCACCTTCAGTGTGAGTGCAGCCATCTGCCCTCCGGAGGCCAATTTCAACTGAAGTTGGGACGCAGTG  
 TTGGGTGACTGGCTGGAGCCAGGTTAAGCAGCGCTTTTTCAGGCTCCACAGCCAACTCCATGCTGACCCCAAGC  
 TCGAGAGGCTGAGGTTTATCATGACACACAGAGGTGTGACCGGCTTACAAGAGTCTTCTTCCCCC  
 GTGTCCCCCTTGCTGGGGACATGATCTGTCCACCAATTTGGGGAACCTTTGTGCTATGGGGATTCTGG  
 AGGCCATTGGCTTGTGAAGTTGAGGGCAGATGGATTCTGGCTGGGGTGTTCCTGGGAAAGGCCCTGCCGTG  
 AAGGCACAGAATCCAGGTGTACACCGCATCAACCAATGGAATGATCAAGAGCAAAATGAGCAATGG  
 AGCCTTCTCAGGTCCTGTGCCCTGCTGCTTCTCTGCTGCTGGCCGCTGCAGCCCAAGATGGGCTCCT  
 GA

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 ATCTCACCCTCAGTGTGGCGAACCCCTCTGAGAAATCGTGGAGGAGTGGACGCGGAGGAGGAGGTGG  
 CCCTGGCAGGTGAGCGTGAGGACCAAGGACGACATCTGCGCGGACCCCTGGTCACCGCACGTGGGTG  
 CTGACGGCAGGCCACTGCATTTCCAGCCGTTTCCATTACAGTGTCAAGATGGAGATCGGAGTGTCTATAATGAA  
 AACACAAGTGTGGTGTCTAGTCCAAAGAGCTTTTGCCACCTAAGTTCTCAACAGTTACAACCATTCGAAAT  
 GACCTTGGCCCTTCTCCAGCTCCAACTCTGTGAATTTTACCTCAACATCCAGCTATCTGCATCCCTCAGGAG  
 AATTTCCAGGTGGAAGTAGGACACGAGTGTGGTGAACGATGGGCAAAACACACGCGTGAGGAGAAAC  
 TTGATCAGAAATTTCCAGGATGTGGACCAATACATCATGTGCTATGAGGAATGTAATAAGATAATACAGAGAAGC  
 CTGTGCTACTAAGGATGTAAATAAAGAGGATGGTCTGTGCTATAAAGAAACAAGGAAGGATTTCTGTCAA  
 GGAGATTCTGGGGCCCGCTTGGCCCTGTGAATATAATGACACATGGGTCAGGTTAGGATTTGTGAGCTGGGGCA  
 TCGGCTGTGGTGGC

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 ATGGCGCGCGGGCGCTGTGCTGGCGCTGTGCTGGCTGGACTCGGGAGAGCCGAGGCCTG  
 ATGGCGCGGGAAATTCACGCGCTGTGGCGGCGGAGTGGAGTCCGCGCGGCGCGCTGGCCATGGCAGG  
 CCAGCCTCGCCTGAGGAGAGCCCAACCGATGTGGAGGAGCCCTGCTAGCCCGCCGCTGGGTGCTCTCGGCTG

FIG. 1BB

GGCACTGCTTCCAAAGCACTACTATCCCTCCGAGTGGACGGTCCAGCTGGGCGAGCTGACTTCCAGGGCCAACT  
 CTTTGAACCTCGGGCTACAGCTGCTTACAAAGTCGAGACATCATTTGTAACCTGACGCATTTGGGGT  
 TTTAGCAATGACATTCGCTGCTGAGACTGGCCCTTCTGTCACTACAAATGCGTACATCCAGCCCATTTGCA  
 CGAGTCTTCCACTTCAACTTGTGCACCGCCGAGCTGCTGCTGACCGCTGGGGTTAATCAGCCCCAGT  
 GGCACACTCTGCCACCTCTTACAACTCCGGGAAGCACAGGTTCACCATTTAAACAACCAACAGGTGTAAATTAC  
 CTGTTGAACAGCCCTCTACCGCTGATGATCTGGATTCCACTTTTGTGCTGCTGAGGATGGCAGTGA  
 GACACTGCAAGAGTCACTAGGTGAGCCCTTGCTGTGACAAAGGTGAGACTGGTATCAGGTTTGAATCGT  
 GAGCTGGGGAATGGACTGGGTCAACCCAAATCGGCCGTGCTGTACACCAACATCAGTGTACTTCCACTGGA  
 TCCGGAGGGTGATGTCCACAGTACACCCAGGCCAAACCCCTCCAGCTGTTGCTCTTGCCTTGGCCCTGCTGTGG  
 GCTCCC

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ATGGGCAGCACCTGGGGGAGCCCTGGCTGGTGGCGGCTGGCTCTTTGCCGTGACGGGCTTAGTGCTCGCTCT  
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 ATCAGCTGTTCCGCGCTTCTCTCCAGGTGGGCGAGGGTTTCGGGCTGGTGAGCATGTGCTGGGACAGG  
 ACAGATCCTCAATCAATCAACAGCATATTGGTTGCATCTTACACACTACAGCTATTGTAGGTTTCAAGG  
 CGCTACGCTGCCGTGTGGACAGGTGGCCCGGCCCGCCCAAGCCTCAGGAGGGCAACACAGTCCCTGGCGA  
 GTGGCCGTGGCAGGCCAGTGTGAGGAGGCAAGGAGCCACATCTGCAAGCGCTCCCTGGTGGCAGAACCTG  
 GGTCTCACTGCTGCCACTGCTTTGAAAGCGCAGCAGCAAGAACTGAATTCCTGTCAGTGGTCTGGGTT  
 CTCTGACGCTGAGGGACTCAGCCTGGGCGCGAAGGTGGGGTGGCTGCCCTGGAGTTGCCCAGGGCCT  
 ATAACCACTACAGCCAGGGCTCAGACCTGGCCCTGCTGCAGCTGCCCCACCCACACACCCCTCTG  
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 GCTGCACACGACACACTGTCCAAACCGCCGCGCTGGGATGCTATGTGGGGCCCCAGCTGGGGTGCA  
 GGGCCCTGTCAAGGAGATTCGGGGGCCCTGTGCTGTGCTCGAGCTGACGGACACTGGGTTCAAGGCTGG  
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 GAGGCCAGGCTGATGCACAGGACAGCTGGCCTGTGGCGGAGCCCTGGTGTCAAGAGGAGCGGCTGCTAACT  
 GCTGCCACTGCTTCAATTGGCGCCAGGCCCAAGAGGAATGGAGCTGAGGCTGGGGACAGACCGGAGGAG  
 TGGGGCTGAAGCAGCTCATCTGTCATGAGCTACACCACCCCTGAGGGGGCTACGACATGGCCCTGCTGC  
 TGCTGGCCCCAGCCTGTGACACTGGGAGCCAGCCTGGGGCCCTCTGCTGGCCCTATCTGACCAACCACTGCC

FIG. 1CC

TGATGGGAGCGTGGCTGGGTTCTGGGACGGGCCCGCCGAGGAGGCATCAGCTCCCTCCAGACAGTGCC  
 CGTGACCTCTGGGGCTAGGCGTGCAGCGGCTGCATGCAGCTCTGGGGTGCATGCGACCCCAAGCCTATTCTG  
 CCGGGATGGTGTACCACTGCTGGGTGAGCTGCCACAGCTGTGAGGGCTGCTGGGGCACCACTGGTG  
 CATGAGTAGGGGACATGTTCTGGCCGGGCTGCACAGCTTCGAGATGCTTGCAAGGCCCGCCAGG  
 CCGCGGCTTTCACCGGCTCCCTGCTATGAGGACTGGGTGACGATTTGGACTGGCAGGCTACTTCTGGCCG  
 AGGAACACAGAGCCCGAGGCTGAGCCTGGAAGCTGCTGGCCCAACATAAGCCAAACACAGCTGCTGA

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 ATGAGAGCTCGCACCTCCACCTCTCCGCGCTCTGGGCCCGGCTCTGGCGAAGCTGCTGCGGCTGCTGA  
 TGGCGAACTCTGGGCGCAGAGCGGCGCTGCTCCGCCAAACACACACGCGCTTGGACCCCAAGCCTATG  
 GCGCCCGTGGCGCGGCTGCGAGGCTGCGAGGCTCGCTCTCAACGGCTCTCGTTCACCTGGCGG  
 GTGCTGTTGGACCAAGTTGGTGCTGACGGCCGCACTCGGAAACAAAGCCACTGTGGGCTCGAGTAG  
 GGGATGACCACTGCTGCTTCTCAGGGCAGAGCTCGCGCGGACGACTCGTCTGTTGCCATCCCAAGTAC  
 CACCAGGCTCAGGCCCATCTGCCAAGCGAAGGATGACACGATCTCATGTTGCTAAAGCTGGCAGGCG  
 CCGTAGTCCCGGGGCCCCGGTCCGGGCCCTGCAGCTTCCCTACCGCTGTGCTCAGCCCGGAGACCACTGCC  
 AGGTTGCTGGCTGGGGACCAACGCGCCCGGAGAGTGAAGTACAACAGGGCCCTGACCTGCTCCAGCATCAC  
 TATCTGAGCCCTAAAGAGTGTGAGGTTCTTACCTGGCGTGGTCAACCAACATGATGTGCTGGAGCTGG  
 ACCGGGCCAGAGCCCTTGCCAGAGTGACTCTGGAGGCCCTGGTCTGTGACGAGACCTCCAAAGGCATCCT  
 CTCGTGGGGTGTACCCCTGTGGCTCTGCCAGCATCCAGCTGTCTACACCCAGATCTGCAAAATACATGTCT  
 GGATCAATAAAGTCATACGCTCCAACTGA

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 AGAATGGTAGTGCCCGTGGCAAGTAGATCCAGATGTCACGGAACACCTGTGTGGAGGCTCAATCTTACAT  
 TGGTGTGGTTCTGACAGCCGACACTGCTCCGAAGAACCTATTAGACATGGCCGTGGTAAATGTCACGTG  
 GGTATGGGAACGAGAACATTAGCAACATCCACTCGGAGAGAAAGCAAGTGCAGAAAGGTCAATATTACAAATA  
 TTAAACGCCGCCAGCTCGACAGTGACCTCTCTGCTTCTACTTGGCACACCACTGCAATTCAGCAATTTCAA  
 AATGCTGTGCTGCTCGAGAGGAGGAGGACCTGGAGCTGGTGTGGATGGCACAGTGGGTAAACGCAAT  
 GGGTATGACCAATATGACTTAAACATGCACCTGGAAAGCTGAGAGTGGTGCAGATTAGCCGGAAAGAAATG  
 TGCCAAAGAGGTAAACCACTGTCAGGACATGATTTGTGCTTGGAAACCAAGGACCAATAGCGGAGGCGG  
 CCAGGAGAAGTAGGGGGGCTCTGGTTGGCAGAAAGAAACAAAGACATGGTACCAGCTGGGTATTATGCTG  
 CTGGGGTGTGGGCTGTGGCCAGAAACATGCCTGGAGTGTACACCGAGTTGTCCAAATTATCTGCTTGGATCG

FIG. 1DD

AGAGGAAGACTGTGCTGGCAGGGAGCCGGTATAAGATATGAGCCAGACTCTGTAGCGCTTTGCTTCTCTCACCC  
TGGGCCATCCTGTTACTGTATTTGTGATGCTTCTATTATCCT

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ATGGAAATATGCTGCTTTGGTTGATATTTTACCCTCGGGTACCCCTATTGATGGATCTGAATGGAATGG  
GATTTATGTGGCACTGAGAAAGTCCCGGATTCTAGTGAAGAGACTTTCCATCTACCAGCCCGCATTT  
GAGCGAGTGCCTAAGATGATGTTAACTACAGTGTGGCATCGAATGCAGAAAGAACTCCCAACTCCAGACCT  
TTCTGAATGGAGGATTATCTTCTATGAGACTGTCTTTGAGAAATGGCACCCGAACTTAACAGGGTGAAGT  
CAAGATTGGTTCTTGAGCGACTCAAAATATACCAAAAGGAGTATCTTTAGGAGAAAGAGACAGGTGTAT  
GGCACGACAGAGTTCAGCATCTTGGACAAAGGTTCTTAACCAATTTCCCTTTTTCAGCACAGCTGTGAAGCTT  
TCACGGGCTAGTGGCATCTCATTTCCCTCAGCATGTTTAACTGTGCCACTGTGTTTCATGATGGAAG  
GACTATGTCAAAGGGAGTAAAGCTAAGGTAGGGTTGTTGAAGATGAGGAATAAAGTGGAGCAAGAAACG  
TCAGGTTCTAAGAGGAGCGAGAGAGCTAGTGGTGTGACCAAGAGAGGTACGAGAGAGCATCTGCCG  
GAGAGCGAAGGTGGGAGAAAGAAATACTGGCCGGGTCAGAGGATTGCCGAAGGGAGGCGCTTCCCT  
TTCACTGGACCGGGTCAAGAAATACCCACATTCGGAAGGGCTGGCACGAGGAGGCATGGGGGACGCTACCTT  
GGACTATGACTATGCTCTTCTGGAGCTGAAGGTGCTCACAAAAGAAATACATGGAACCTTGGAAATCAGCCCAAC  
GATCAAGAAATGCCTGGTGGAAATGATCCACTTTCAGGATTTGATAACGATAGGCTGATCAGTTGGTCTATCG  
GTTTTGCAGTGTGTCGACGAATCCAAATGATCTCTTTACCAATTCGCGATGCTGAGTGGGCTCCACCGGTTT  
GGGGTCTATCTGCGTCTGAAAGATCCAGACAAAGAAATTTGGAAGCGCAAAATCATTCGGGTCTACTCAGGGC  
ACCAGTGGGTGGATGTCACGGGTTCAGAAGGACTACAAGCTTGTCTTCGCATCACTCCCTTAAATAGGCC  
CAGATTTGCTCTGGATTCACGGGAACGATGCCAATTTGTCTTACGGCTAA

>SGPR548 SEQID 31

ATGGGGACCCAGAAAGGACGCGAGAGTGGGGTTGGGGAGGGGATACCGGTGGTCAGAGAAATTTATTA  
CAGTGGATGGGATAAGTCTGTGCTGGAGGGATCCTGTGGAGGCAAGGGTCTGCTCACTGGATTCTCT  
CACTCCCTCCCGACAGTCGCGCAACCTGGTCCCTCCCTCCAAATTTGGCTTCTCTCACTCTCTCTCTCG  
CTGGCATCCACAGCAGCCAGGATGGTGAAGTTGCTGGAAGTGAAGAGTGTGACCCCACTCCCAAGCAT  
GGCAAGTGTCTCTACGAGCTGTGACGCTTTAACTGTGGCGTTCCCTCATCTCCCACTGGGTGTCTCT  
CGGGCCACTGCCAAGCCGCTTCATGAGAGTGGCCTGGGAGAGCAACAACCTGCGCAAGCGCGATGGCCCA  
GAGCAACTACGGAACGAGTCTCGGGTCTTCCACACCCCGAGTGGCCCGCGGTGCTACCCACGACATCA  
TGTGCTGCGGCTAGTCCAGCCCGCAGCCTGAACCCCGAGGTGGCCCGCGGTGCTACCCACGCTGGCC  
CCACCGGGGGAGGCTGTGTGTTGCTGGCTGGGGGCTGGTGTCCCCACAACAGAGCTGGGACCGCTGGGAG

FIG. 1EE

CCCCGGTCACAAGTGTCTCCAGATCGTTGCATTTGCCAACATCAGCATTATCTCGGACACATCTTTGTG  
CAAGAGCTACCCAGGCGCTGACAAACACCATGGTGTGCAGGCGGAGGCGACAGCGCAGAACTCTGT  
TGAAGGTGACTTGGGGACCCCTGGTCTGTGGGGCATCTCTGAGGGCATTTGTCTCTGGGGTACGCTCCCT  
TGTGACACACCCACCAAGCCCTGGTGTCTATACCAAGTCTGCCACTACTTTGGAGTGGATCAGGGAAACCATGAA  
GAGGAAGCTGA

>SGPR396\_SEQID\_32

ATGGGCGCTGCTGGCTTCAAGCTGCTCCTTGCTGGGAATCTCAGTGTGTGGGCAACCTGTATACTC  
 CAGCGCGCTGTAGTGTGGCAGATGCTGCAGGGCGTGGCGTTGGAGGTCAGCTACACTTTTGACCAC  
 AACTTTATCTGTGGAGTTCCTCGTCTGAGAGTTGATCTACAGCAGCATGTCATACAAACCGACTG  
 GACTACTTTTTCATATACTGTGTGGTAGGATCGATTACAGTAGGTCACTCAAGGAACCGTGAAGTACTACGT  
 TGCCTGCAAAATCGTCACTTCAATCCCAAGTACAGGAGAGCTGCCTTTGTGAAACTGCTCTCAAGT  
 CAGCTTCACTTGCCCACTGCTGCTATTTGCTGCCAGTGTACAAAGCATTTGGCAATTTCCACCTTTTGTGG  
 GTGACCGGATGGGGAAGAATTGAAGAAAGTTCAGATAGATTACCACTTCGCCCTCAGGAAGCAGAAGTACC  
 CATTTATGACCGCGAGCTTGTGAACAGCTCTCAATCCCATCGGTATCTTCGCAAGCAGTCGGAAGCAT  
 CAAGGAAGACAAGATTTGCTGCTGTACTCAACATGAAGATAGTTGCAAGGGTGATTTGTGGAGGCGCTC  
 TGTGCTGTCACATTTGATGTGATGGATCCAGACAGAGATGAAGCTGGGGATTAGAATGTGGTAATCTCTTC  
 CTGGAGCTTACACCAATGTAATCTACACCAAAATGGATTAATGCCCACTTTTCAAGAGCCAACATCTAGACT  
 CTGTGACTCTTGTCCCATTTGTCTACTCTCTGTGCTCTGCTGCTCCTCTGCTGCTTTGGACCTAACACT  
 ATACACAGATGAGGCATGTAGCTGAAGCTGTTGCTTGATACAGGGCTGGGAAGAGAAATGCATGGAGATTAG  
 TCCAGGGGGCAGATAA

>SGPR426\_SEQID\_33

FIG. 1FF

ATGGCTGCTCAGCAGCTCACTGCTTTTGGAAAAATAAGACCCAACTCAATGGATTGCTACTTTTGGTGCAC  
 TATAACACCCAGTGAACAAATGTGAGGAAATATTCTTCATGAGAAATACCATAGAGAAACAAATGAA  
 AATGACATTGCTTTTGGCTCTACTGGAGTTGAGTTTCAATATAGTCCAGAGAGTTTGCCTCCACAGCT  
 CATCTATAAAGTCCCATAAACAAAGTGTTCGTACAGGATTTGGATCATTTAGATGATGGACCTATACA  
 AAATACACTTCGGCAAGCCAGAGTGGAAACCATAGCACTGATGTGTAAACAAAGGATGTGTATGATGGCT  
 GATAACTCCAGGAATGTTATGTCTGGATTCTGGAAAGAAATAGATGCATGTAAGGAGAGATCTGGTGGACC  
 TCTGGTTATGATAATCATGACATCTGGTACATTGTAGGTATAGTAAGTTGGGACAAATCATGTGCACCTCCCAA  
 AAACCTGGAGTCTACACAGAGTAAGTATGAGATTGGATTGCCTCAAGACTGGTATGTAG  
  
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 AGAATAGCAGGGTCTGGATGCTGAGGAAGGAGAAATGGCCCTGCAAGCTAGCCCTCCACAGAACAAATGTCTA  
 CCGACGGGAGCCACATGGCTTAGTAACAGCTGGCTTATCACTGCTCACTGCTTCATAGGGTCCATGATC  
 CCAAGAATGGAATGTTATTAAGTAACCCACAAACACAGTCAAAATATCAAGAATGTTAATTCAGAAACACTAC  
 CATTACCTGCACACGATAATGACATTGCTGTGTGCATCTATCTCACCAAGTGTATATACAAGCAACATCCAAA  
 AAGCATGTCTTCCAGATGTTAATTATATATTCCTATACAAATCAGAAGCAAGTGGTACTGCATGGGGATCATTAA  
 CCTTTACGAACAACCTTAATGTACTCCACAAGGGATTAGTGAAGATTATAGATAATAGGACCTGCAACAATGGG  
 GAGGCAGATGGCAGAGTCATCAGATCTGGAATGTTGTGCGCGGTTCCCTGGAGCCACGTTGGATGCTCGCC  
 AGGTGACTCTGGTGGACCACTGGTGGTACAGATCTTAAAGGCATCTTGTAAAGTTCCTGCTGGTATTGA  
 AAGCTGGAGTAATGAACGCTCTTCCAAACAAGCCTAGTGTCTACACTCAAGTGACATACTAT  
  
 >SGPR405\_SEQID\_35  
 ATGTCACGAAAGGGGGAGTTGCTGCAGAGCCAGCCACACTATTGTGAGACAGTGAAGAGGCCCCCAACA  
 CCTCACAGGTCGGGACGCTTCTAGAGAGGTGCATTGAGGTGGGCATGGAGTTTCGGGATGCGCGGG  
 TGAAGGTCGTGAAGCCCATGAGAGGGGGCCCGGAGGGGGCGGCGGAGGCAAGAGGGCTGTGCGCG  
 GACCAAGCGACGAGGGTCAAGAGAGGGCTCGCGCGGGGTGGACGCTGGAGCAGAGACAGG  
 GGAGATGCTTAGAGGATAAAATGACGGGCGAGATGAAGAGATACTCAGGCTGGCCACCGAAAGCGAGG  
 TCCCAATAGACACAACTGAACCCGCTGATCAGCATCTCCCGTAAAGTCTCAGGAGCTGGCGGAGGG  
 GGTGAGCAGGCACACTAAGAGCAAAATGGCAGATTTAACTGTCTATGGCTTCAAGGGACCTGCGGCT  
 GGTCATGAAGAGCGCTCAACTCTGTCTCAGAGGGCCAAAGAGGCATTGGCTGGGATGTCGCTGCTGCTT  
 CTCCTGCTGGTGTGACCATTTCTCAGACCTCCCGCCGCTGCGAGGTCAGGAGGAGTTGGAGGCTTGGCG  
 GTTTAGAGTGCAAGTGGGCGAGCTGAGGCTCTATGAGGACACCGGCGGAGGTTGGTGGATCGTCCGT  
 CACCCCGAGTACAACGAGAGCCTGTCTGCCAGGGCGTGGCGACATGCCCCCTGCTGAAGCTGGAGGCCCGC



FIG. 1GG

GTGCCGTGTCGAGCTCATCACCCGGTCTCGCTCCGTCCTGCTGACGTGCCCTCGGGGAAGACCT  
 GCTGGTGCACCGCTGGGTGTCATTGGACGTGGAGAACTACTGCCTGGCCCTCAGCTGTGGGAGGAGC  
 GGTGAAGTCAGAGCAAGCTCTCTGTAAACAGACCTGTCCGCCCGCTTCTTCCAAACCACTAGCGG  
 TTGAAGCGCTATCAAGAGAGACATGCTGTGCGGGACGGGAACACCGCTCTCGCCACGGGACAACG  
 GGGCCCCCTCTGTGCAGCGGAATTGCACCTGGGTCCAGGTGGAGTGGTGAGCTGGGGCAAACTCTGGC  
 GCCTTCGGGCTATCCCGGCTATACACCGGTACAGCTGACGTACGTCTCTGGATGCGCCACGCATCCCACTG  
 AGCTCAGACCCCTGCTGTGTCGGAAGATTTGTGCTCCCCAAATCCAGATGTTGAAGCCCTAACTGCCGTC  
 TGATGGGATCAGGAGCGCGCTGCCCGCGGCCGACCTGCAGAGGCGGAGTCCCCATCATGAGACCC  
 GAGCTTGCAGAGGATGTATCAAAAGGCCCACTGCCACGGCCAGGTCACCATCATCAAGGCTGCCATGCC  
 GTGCAGGGAGGAAGGGGAGGTTCTCTGCCAGGCCCTCTGAGGACGGAGGACCTCACCCCAACCAACC  
 CAACACGGAGGTGCTCCACGTGCAGACCCAGGCTGAGCCAGCCGGAGACATCTGCCAGAGTGGGCTTG  
 CCAAGTTGTGGGGACACCATGCTGCTGCTGCTGCTTCTGGCTGCTCTCCCTGGGGAGCTGTAGC  
 ACTGGAGTCCAGCTCCGCTCCCGAGAAATGACCTGGTGGCAATTTGGGGGGCCACAACACCCACCGGGA  
 GTGGTCGTGCAGTGGGTCTGACCGCCGCTCACTGCATTTCCGAAAGGACACCGCCCTGCACCTACCGG  
 ATTACACAGGGATGTATCTGTACGGGGCGGGGCTGCTGAATGTACGCCAGATCGTCTCACCCAA  
 CTACTCTGCTTCTTGGGGACACATCGCCCTGCTGAAGCTGGCCACAGTTCCTGGAGTTCACTGACA  
 GTGACAACTGCTGGAACACAGGCTGGGGATGGTCGGCTTGTGGATATGCTGCCGCTCTTACCGCCGGA  
 GCAGGTGAAGGTCTCACACTGAGCAATGCAGACTGTGAGCGGACACTACGATCTTTCTGGTGGTGC  
 ACAGAAAGTTATCCAGGATGACATGATCTGTGCCGGCCGACGGCCCGCCACCTGGAAGGGTGACTCAGG  
 CGGCCCTGGTGTGCAAGAAGAAAGGTACTGGCTCCAGCGGGAGTAGTGAAGTGGGATTTACAGTGAT  
 CGGCCAGCATTTGGCGTCTACACGCCACAGACAGCTGGCAGGTGCCAACCATGCAGACGCCACGAGAC  
 CAGCTGGCAGGGTGCCAAACATGCAGAGGCCACAGACATGGGCCAGGGCAGGAGTGGGTCTGCAGGCCCT  
 TCACCACGTCACTCTACCCGAGGCGATCCCGAGGCCCTCCAGCCATGTCACTCTGATGGCTGTC  
 CCCAGACCTCACCCAGCTCACTGTACCCGAGGCCGTCCCCAGGCCCTTACCCATGTACACCTGTACCT  
 GATGGCTTCCCGACGACCTCACCCACATCACTGTACATGATGGCGTCCCGAGGCCCTTACCCACATCA  
 CCTGCTACCCAAATGGCTGTCCCGAGCACCTTACCCACGTCACTGCCACCGGCGCCATCCCGAGGCCCTTC  
 ACCACATCACTGTACAGATGGCATCCCGAGGCCCTCAACCCAGCCACCTGTACAGAGCGGCATCCCG  
 AGCACCCCTCACCCAGCTCACTGCTACACGATGGCGGCTCCCGAGGCCCATCACCCATGTCTACACGAT

AG

>SGPR485\_1\_SEQID\_36  
 ATGCTCTGTTCTCAGTGTTCCTGCTCTGCTCCCTGGTCACGAGAACTAGCTCGGTCCACGGACTCCTCTCC  
 AGAGCTGGAGTGGCTATCTTAGCGAGGCTAGGGAGCCACCGCCCTCAGCCCCCTCATCCCCCAGCCC  
 AGTCAGTAATGGTGGACAGATCTATTTTCAGGGAAGACTCGGTATTCCAGAATCACAGGGGGATGGAGG  
 CGAGGTGGGTGATTTCCCTGGCAGGTGAGTATTCAGTAAGAACTGAACTTTCTGTGGCGGCTCCATCTCTG  
 AACAGTGGTGGATTCTCAGTCGGGCTCACTGCTATATTCGAGGAGTCTTTCCAGAAGAACTGAGTGTCTG  
 CTGGGACCAACGACTTAACCTAGCCCCATCCATGGAATAAAGGAGGTGCCAGCATCTTCTCACAAGACTTT  
 AAGAGACCAACATGGCAATGCAATTCCTTGTCTGCTGGCTTCGCCCATCAAGCTGACCTGAAGGT  
 GCCCATCTGCCTCCCCACGACGCCGCCCTGCCACATGGCCGCAATGCTGGGTGGCAGGTTGGGGCCAGAC  
 CAATGCTGCTGACAAAACTCTGTAAACGGATCTGATGAAGCCCAATGGTCACTCATGACTGGGAGGAGT  
 GTTCAAGATGTTTCCAAACTTACCAAAATATGCTGTGCGGGATACAAGATGAGAGCTATGATGGCTGCA  
 AGGTGACAGTGGGGGCCCTCTGCTGACCCCCAGACCTGGTGAGAGTGGTACCAGTGGGCATCATCAG  
 CTGGGAAAGAGCTGTGGAGAGAAGAACACCCAGGATATACACCTGTTGGTGAACCTACAACCTCTGGATCG  
 AGAAGTGACCCAGCTAGAGGACGCCCTTCAATGCAGAGAAAGGAGGACTTCTGTCAAAACAGAAACCTATG  
 GGCTCCCACTCGGGAGTCCAGAGCCAGCGCCAGATCCTGGCTCCTGCTCTGTCCCTGTCCCATG  
 TGTGTTCAAGACTATTTGTACTGA

FIG. 1HH

>SGPR534\_SEQID\_37  
 ATGGCTTCCCTCTGCTCCTCTCTCTCTCTCTCTCTCTGCGGGGCCGCCCTTTGGCTGCGGGGTCCCCGCCATCCA  
 CCCTGTGCTCAGCGGCTGTCCAGGATCGTGAATGGGAGACGCCGTCCCGGCTCCTTGGCCCTGGCAGGT  
 GTCCCTGCAGGACAAACCGGCTTCCACTTCTCGGGGGCTCCCTCATACGCGAGGACTGGTGGTCAACGCT  
 GCCACTCGGGTCAAGACTCCGACGTGTGGGTGGGAGTTTGAACGAGGCTCTGACGAGGAAAC  
 ATCCAGTCTCTGAAGTCGCCAAGGTCTTCAAGAACCCCAAGTTACAGATTCGACCGTGAACAATGACATCATC  
 CTGTGAAGCTGGCCACCTGCCGCTTCTCCAGACAGTGTCCGCGGTGTGCTGCCAGCGCCGACGACG  
 ACTTCCCGCGGGGACACTGTGTGCCACACAGCTGGGGCAAGACCAAGTACAACGCCCAAGAACCCCTGA  
 CAAGCTGCAGAGGACGCTGCCCTCTGCTCCATGCCAATGCCAATGCAAGTCTCTGGGCGAGGAGTACCC  
 GAGCTGATGATCTGTGCGGGGCGAGTGGGCTCTCCTGCTGAGTGGGTGACTCTGGAGGCCCTTGGTCTGCC  
 AGAAGGACGGGCTGGACCTGGTGGGCATTGTCTCTGGGCGACCGCACCTGCTCTACCCACCGGCCG  
 CTGTGTACGCCGCTGTCAACAGCTCATACCCTGGGTGCAAGATCTCTGGCGGCCAACCTGA

>SGPR390\_SEQID\_38

ATGAGCCCACTGTGGCTGACGTACACCTGTGCCAGGACACCAAGGAAGTCCCGCTCTGGATGCCGCGT  
GCTGTCGAGCGGCAGCATTTGGCTGGTGGCCACACAGCCTTTGTGCTCTACCTCGGAGTCTTTTGGGAGG  
AATGAACAATCCACACACGCTGCGCTTAAGAGCTGCAACACTCCCTCGGGAAGGTCTACAGCGTCACTCCTGAAG  
CAAGCAAGACCAACCCACGAGGAAGAAATCCGACACATCGGAACATCAGCAAGAACAACTCCGGA  
CACACATCTTTAAGAAATGTAACTACGACCCCTTCTCTCTACACAGGCTTCACGTGGACACACGCGCGAG  
CTGCGGGAATCCGGTGGACCAAGATTTGCGGCGGGAGACCTCGGACTATCACCGCACGCTGACGCCACCC  
CTGAGGCACTCTGCACTTTCTGCTCGACCTCCAGACCTGAGCCTGGCTGGCTGGAGGAGGAGCTATTGC  
AGCGGGAATCCGGCAAGCTGCGGAGCACGGCATCTCCCTGGCTGCCATGGCACAATTTGTGCGGTGA  
GCTACAGGAGACATAAGGGACCTTTGGCAGAAGAGACTTCAATACAGCCGCTGTCCAGGGAACCTCTTTT  
CCTGCGGAACACCGAGTGTGTGACCAAGGTGAACCCGGAGTGTGACACAGGAGGACTGCTCCGATGGGTCTC  
CGACAGGCGCACTCGAGTGTGGCTTGACGCTGCTGCTCACTGCTTCAATGAGTTCCAGACCCGACGAAGTGGGTGGCCCTA  
AGCATCCCGGGGAGTTTCGTGGCAAGCCAGCCTTCGAGAGAACAAAGGAGCACTTCTGTGGGCGCGCCATC  
ATCAAGCCAGGTGGTGTGCTGCTCACTGCTTCAATGAGTTCCAGACCCGACGAAGTGGGTGGCCCTA  
CGTGGTGGCACTACCTCAGCGCTCGAGGCCAGCACCCGTCCGGGCCAGGTGGTCCAGATCGTCAAGCA  
CCCCCTGTACAAGCGGACACGCGGACTTTGACGTGGCTGTGCTGGAGCTGACCAAGCCCTCTGCCCTTCGCG  
CGGCATATCAAGCCCGTGTGCTCCGGCTGCCACACATCTCCACCCAGCAAGTGCCTGATCTCAG  
GCTGGGCTACCTCAAGGAGACTTCGTAAAGCATCTTCTCGGCTCGAATGGTCAAGCCAGAGGTGCTGCA  
GAAAGCACTGTGAGCTGTGGACAGGCACTGTGCGAGCTTGTACGGCAATCACTCACTGACAGGATG  
GTGCGCTGGCTACCTGGACGGAAAGGTGACTCTGCCAGGGTGACTCAGAGGAGGACCCCTGGTCTGCGAG  
GAGCCCTCTGSCCGGTTCTTTCTGGCTGGCATCGTGACTGGGAAATCGGGTGTGCGGAAGCCCGCGCTCCAG  
GGGTATAGCCGAGTACCAAGCTACGTGACTGGATCTGGAGGCCACCAACAAAGCCAGCATGCCCTTGCC  
CCCCACATGCTCTGCCCCCTGCGCCCCAGCACAGCTGGCCCCACCATGCTGAGAGCCCTGTGCTCAGC  
ACCCCAACAAATCATGACGCCCTCAGTACCGTGCCTTTGACTGGGTACCGTTTCTAAGCTACAGAATG  
TGGGCGAGGCTGCAATGGAGAAGCCACCGGCTGTGGGGGGTTGCGAGCTGCTCCGGGAGGTTGC  
CCTGCGAGGTACGCTGAAGGAAGGTCCCGGCACTTCTGCGGAGCAACTGTGGTGGGAGCCGCTGGCTGC  
TGTGCGGCCCACTCTTCAACCAACAGAGTGGAGGAGTTCGGGCCACCTGGGCACTGCTGCTGCTGC  
GGGCTGTGGCGGAGCCCGGTGAAGATCGGGCTGCGGCGGGTAGTCTGCACCCCTCTACAAACCTGGCAT  
GTGCACTTGCACCTGCTGTGAGCTGGCCAGCCCTGGCTTCAACAAATACATCCAGCTGTCTGCC  
TGCCCTGGCCTCCAGAAGTTCCCTGTGGCGGAGTGCATGATCTCCGATGGGGAATACGCGAGAAG  
AAATGCCACCAAGCCCGAGCTCTGCAAGAGGCGTCCGTGGGCATCATAGACCAGAAAACCTGTAGTGTGCTCT

FIG. 111

FIG. 1JJ

ACAACTTCCCTCACAGACCGCATGATCTGCGCAGGCTTCTGGAAGGCAAAAGTCGACTCCTGCCAGGGTGC  
 TCTGGGCGCCCTTGGCTCGGAGGCCCCGTGGCGATTTTATCTGGCAGGGATCGAGCTGGGCTATTG  
 GCTGGCTCAGGTTAAGAGCGGGCGTGTACACGCGATCACAGGCTAAAGCGTGATCTGGAGATCAT  
 GTCTCCAGCCCTTCCCATGTCTCCCCCTCGAACCAAGATGCTGGCCACCACAGGCCCCAGGACGACA  
 GCTGGCTCACAGTCCCGGGGCCACACCCAGACACCCTGGGCTGCCAGCAGGGTGACGGGCCAA  
 CCTGCCAATCAACCTTATCTGCCGTGAGCACCATGCTAGGGAGACAGCCCATTTCCAGACGCCCGGAGG  
 CCACACACACACCCAGCTACAGACTGTGGCTGGCGCGCGCTCACAGGATTTGTGGCGGCGAGCG  
 CAGCGGCCGTGGGAGTGGCGTGGCAGGTGAGCCTGTGGCTGGCGGCCCGGGAACACCGTTGCGGSGCC  
 GTGCTGGCAGAGAGGTGGCTGTGGCGGCGACTGCTTCGACGTCTACGGGGACCCCAAGCAGTGG  
 GCGGCTTCTTAGGCACGCGTTCTGACGCGCGGAGGGGCGACTGGAGCGCTGGCGCGCATCTACAAG  
 CACCGCTTACAATCTACACGCTCGACTACGACGTGGCGCTGTGGAGCTGGCGGGGCCGTGCGTGCA  
 GCGCGCTGGTGCCTCATCTGCTGCCGAGCCCGCGCGACCCCGGACGGCAGCGCTGGCTGCATCA  
 CCGCTGGGGCTCGTGGCGAAGGAGCTCCATGGCGCGCAGCTGCAGAAAGGCGGCCGTGCGCCTCCTC  
 AGCGAGACAGCTGCCCGCGCTTCTACCACTGCAGATCAGCAGCGCATGCTGTGTCGGCTTCCGCGAGG  
 GTGGCTGACAGCTGCTCGGTGACGCTGGGCGACCCCTGGCCTGCAGGAGCCCTCTGGACGSGTGGGTG  
 TAACGTGGGCTCACTAGCTGGGCTATGGCTGTGGCGGCCCCACTTCCCAGGTGTCTATACCCGGGTGGCAGC  
 TGTGAGAGGCTGGA TAGGACAGCACATCCAGGAGTGA

>SGPR521\_SEQID\_39

ATGGCAAGATCCCTTCTCTCTGCCCCCTGCAGATCCTACTGCTATCCTTAGCCCTTGGAAACTGCAGGAGAAGAAGC  
 CCAGGGTGACAAAGATTATTGATGGCGCCCATGTGCAAGAGGCTCCACCATGGCAGGTGGCCCTGCTCAGT  
 GGCAATCAGCTCCACTGCGGAGGCGTCTGGTCAATGAGCGCTGGGTCTCACTGCCGCCCACTGCAAGATGA  
 ATAGTACACCGCTGAGCTGGCAGGTATACGCTGGCGCAGAGGAGAGCTCAGAGGATCAAGGCCCTCGAAGTC  
 ATTCGCCACCCCGGCTACTCCACACAGCCCATTTAATGACTCATGCTGGAAGCTCAATAGCCAGGCCCA  
 GGCTGTCAATGTTGTAAGAAGTCAAGGCTGCCCTCCCGCTGCGAACCCCTGGAACCACTGTACTGTCTCC  
 GGCTGGGGCACTACACGAGCCAGATGACCTTTCCCTCTGACCTCACTGTGCGGTGATGTCAGGCTCATCTC  
 CCCCCAGGACTGCACGAAGTTTACAAGGACTTACTGGAAATTCATGCTGTGCGCTGGCATCCCCGACTCCA  
 AGAAAACGCTGCAATGGTGACTCAGGGGAGCCGTTGGTGGCAGGATACCTGCAAGGTGGGTGCTGCTG  
 GGGAACTTCCCTTGGCGCCACCCCAATGACCCAGGAGTCTACACTCAAGTGTGCAAGTTCCACCAAGTGGATAA  
 ATGACACCATGAAAAAGCATCGCTAA

FIG. 1KK

>SGPR530\_1\_SEQID\_40  
 GTCTCCACAGTGTGTGGGAAGCCTAAGTGGTGGGGAAGATCTATGTTGGCCGGGACGACGAGCTGGCCAGT  
 GGCCATGGCAGGCGAGCTGCTACTGGGCTCGACCTCTGTGGAGCTGTCTCATCGACTCTCTGCTGGCT  
 GGTATCACTACCCACTGCTTCTCAACAAATCCAGGCCCGAAGAACTATCAGGTCTGTTGGGAACATCCCA  
 ACTGTATCATTAACCCAGACACCCAGAGAATGCTGTGCACCGGATCATCCCATCCAGCTTTGAGAAGCT  
 CCACCTTTGGGAGTGACATTGCCATGTTGACGTGCACCTGCACTTAACTTCTCTACATTGTCCTG  
 CTGCCTCCCATCCCGGACATGCAGCTGCCCATGACGTGCTCTGTGATAACCGGCTGGGGAATGCTCACC  
 GAAGACATAAGAGGTTGCAACTGTCACACCTTCTATCCAGGAGGCAAGGTGGGCTCATTTGAGAACAC  
 ACTCTGATACCTTATGGGCAAGAAGCTGCAAAAGGCGAGACCTAAGCTTTGCAGGAGGAGATGCTGTGG  
 GGGGTACTCTCGACAGGAATCCATCTGCAAGGGATTTGCGGGGCTCTAGTCTGCTACCTCCCACT  
 GCCTGGGCTGTTGGGCTGGCCAGCTGGGCTTGGACTGCCGCTACCTCTGCTACCCACGATCTTCACCA  
 GGGTCACTACTTCATCACTGGATTGACGAATCATGAGGCTACTCTCTTTCTGACCCCGGCTGGGCTCCTC  
 AC

>SGPR520\_SEQID\_41  
 ATGCTGCTGGCTGTGCTGCTGCTACCCCTCCCAAGCTCATGTTTGCCACGGGACCCCACTGTACACAG  
 CCTGCCCCAGCGCCCTGCAAGTCTTCACTCTCTTTGGGGCAGAGACTGTGTTGGCGGCAACTAGACT  
 ACGTTTGTGAAGGGCGTGGCGAGAGGCTCCAGCACTGCCAATGTACGCGGGCCACGCGCGCATCG  
 TGGGGGAGCGCGCGCCCGGGGCTGGCCCTGGCTGTGAGGCTGCAGCTCGGCGGGGAGCCTCTG  
 TGGCGGCGCTCTGGTAGCGGCTCTCTGGGTGCTACGGCAGCGCACTGCTTTGTAGGCTGCCGCTCGACC  
 CGCAGCGCCCGAATGAGCTTCTGTGACTGTGACGCTGGCAGAGGGGTCCCGGGGGAGCAAGCGGAGGAG  
 GTGCCAGTGAACCGATTCTGCCCCACCCCAAGTTTGAACCGCGGACCTTCCACAACGACTGGCCCTGGTGC  
 AGCTGTGGACCGGTTAGCCCGGGGGATCGCGCGCCCGTGTCTGCCCCAGGAGCCCAAGAGGCC  
 CCTGCCGGAACCGCCTGCGCCATCGCGGCTGGGGCGCCTCTTGAAGACGGGCTGAGGCTGAAGAGTG  
 AGAGAGCCCGTGTCCCTGCTCAGACCGACACTGCGGAAGACCCCTGGGCGCCGCGCTGCGCCCGCAGC  
 ACCATGCTGCGCCGCGTACCTGGCGGGGGCGTTGACTGTGCCAGGTTGACTCGGGAGGCCCTTGACC  
 TGTTCAGCTGCGCCCGCTAGAGAGTCTGTTTCGGAGTCACTCTCGGGGGGACGGCTGCGGGGAG  
 CCAGGGAAGCCCGGGTCTACACCGCGTGGCAGTGTTCAGGACTGGCTCCAGGAGCATGAGCGCAGCC  
 TCCTCAGCGCGAGCGTCAAGGAGCTTCTGGCTGGGACCCCGGAGGCTGCGAGGACGCG  
 GCGCGGCTCGCGCTTCTATGCCGCTGTGCCGGGTCCCGGGGCTCCAGGGCGCCTGTGCGCGCTGGCGACCCAG  
 CAGTGCTGAGCGCGCGGGGAGTGCAGAGCTGCGCTGCGTGGCGCACAGCTGCTGGGCGCTGCTGGGAAAC

FIG. 1LL

GGCAGGAGCTGCTCGGGCCCTCGTCCGGGACTGCGGGGCTGGCCCCCGCCCTGGCTCTCCCGCTCCAGCG  
 CTAGGAGTCTCTTCACCCCGCCGGGAGCTCGGGCTTCACTCAGGATCGGGGCTGCGAGCACTCGGT  
 TCCGAGCGGAGCGGCGCGGAGAGCAACCGCTGCCCTGGGCTGGAGCCCTGCGACAGAAGT  
 TGGTCCCTCGAGGGGGCCATGCTGGATCCTCGAGGTCCCTCGAGCACCTGGCCATGAACATTTCATGA  
 GGCTCTGGCAGATCTGGCTCCAGACACTGACCGGCTTTTACAGCGCTGGTGCGGGCGAGGCTTGGGGG  
 CCGGACTGCGCTTACAGCGCTTGGTGGGCTGGAGCGGCCACACTGGCTCGAGCCCTCCCGCGCTGCT  
 GGTGACGCCCTCGAGGCTTCCGGTGGCTCCCTGCGAAGGGGAGCCGAGGACCTTGGATGGATGT  
 AGGGCAGGGCCCCGGCTGGAGAGGAAGGGGCACCAACCCACTCAACCTCAGGTACCCCCCGCAGGCAACC  
 CTGA

>SGPR455\_SEQID\_42

ATGAGTCTGATATTGCACTGCTGTATCTAAACACAAAGTCAAGTTTGGAAATGCTGTTACGCCAATCTGTCTTC  
 CTGACAGCGATATAAGTTGAACCAAGAAATCTTTGCTATCCAGTGGATGGGGCAAGATTTCCAAACATCAG  
 AATATTCAATGTCTTACAAGAAATGGAACCTCCCATCATGGATGACAGAGCGTGTAACTACTGTCTCAAGAGCAT  
 GAACCTCCCTCCCTGGGAAGGACCATGCTGTGTGCTGGCTCCCTGATTGGGGAATGGACGCTGCCAGGGG  
 GACTCTGGAGGACCACCTGGTTTGTAGAAGAGGTGGTGAATCTGGAATCTTCTGGGATAACTTCTCTGGGTAGC  
 TGGTTGTGCTGGAGGTTCACTCCCGTAAGAACCAACCATGTGAAGGCATCACTTGGCATTTTCTCCAAAGTCTC  
 TGAGTTGATGGATTTTCACTCAAAAACCTGTTACAGGTTTGGATCGGGGCCAACCCCTCTCAAAAGTGGGCTC  
 AAGGTATATAACAAAGGCCCTGAGTTCTGTCCAAGAAAGTGAATGGAAGCCAGAGAGATAAAATAATCTGTATAAA  
 ATTTACAAGTTTAGACATGGAAGCAAGTTGGATGTGATCATGACTATGATCTTTACGATCAAGCAGTGGAGTG  
 CTTTTAGTAAGTCTGTGGAAAATATTGCCTTACCAATTCGCTGCGAGAGACCACTGAGGCCATGGTTCATATT  
 GTTCTGATACAGAAGACAGTGGCAGTGGCTTGGCTTACCGTTACTCGTGTACAGAAGTCAGAAGCAGGGTC  
 AGGTTTGGGAGTGGCTATTTGTAGAAAGAGGACAAATCACTCTGCCAAGTATCCTGATTGATTGATTOCCAG  
 TAACACAGGTGTCATTGGTTTATTGTGCTCCAGAGAACACATATAAAGTGACATTTGAGGACTTTGCTGTCTC  
 AAATTAGTCCAACCTGATTTATGATGCTGTGATTTACGGTGATCTGAAGAAAGCAAGTAGCTAAACT  
 TTGTGGAATGTGACCATCACTTCAATATTCACTGTGTAACATCAGCGGTGATATCTTTAAAGTGATGGTAAAA  
 ATCGTTACAGGGCTCAAGGCCAGATTTACCAATTTTGGCCTCAGAGCTTTTAAACAAATTTGAACCAAGATTACC  
 TCCCAAAACAACTCTGATCTACCGTAAAGCTATTTCGATGATGTCTGTGGCATCCCTCCATTATGATCCGAG  
 TGGCTTCCAGAGAAATCGCAGGAGGGGAAGAGCCCTGCCCCACTGTTGGCCATGGCAGGTGGTCTGAGGT  
 TTAGGGGATTTACCAATGTGGAGTGGCCATCATCAACCCAGTGTGATCTGACCGCAGGCCACTGTGTGCAA  
 TTGAAGCAATTCCACTCTCTGGACTATTATTGCTGGGACCATGACAGAAACCTGAAGGAATCAACAGAGCAG  
 GTGAGAAGGGCCCAACACATAATAGTGATGAAGACTTTTAACACACTAAGTTATGACTCTGACATTTGCCCTAATAC

FIG. 1MM

AACTAAGCTCTCTCTGGAGTCAAACTCGGTGGTGAGGCCAGTATGTCCTCCACACAGCGGCAGAGCCTCTATTT  
 CCTCGAGATCTGTGCTGACCGGATGGGAAGCATGTCGAGAGCTCTCTGTAATGTTCTCTCATAGATG  
 GTGCCGTAGCAAGTCGCTACAGCAGATTCAAGTGCATGTGTAGAAAGAGAGGTCTGTGAACACACACTTACTATT  
 CTGCCATCAGGAGGATCAGAGAAGATGATCTGTCTGGCTTTTGACGACATCTGGAGAGAAAGATTTCGTG  
 CAGGAGACTCTGGTGGCCACTAGTATGTAGACATGAAATGGTCCCTTTGTCTCTATGCGCAATTGTCAGCTG  
 GGGAGCTGGCTGTCCAGGCTGGAAGCGGGTGATTGCCAGAGTATGATCTCTTGGACTGGATCCAAT  
 CAAAAATCAATGGTAAATGTTTCAAATGATTATAAAACATTAACCTCTCTTAGAGTGGGTTTGGGAACAGTG  
 AGTTGTCTCTGAAGCAGACTAGAAAGCCTAGAGCTTTTCCACACACCGGTATCTACTGGATTATAGA  
 GGAAGACTGGAATGTTCTGGGTGCTCAGAGTTACAGCAGCAGATGTGGCAAAATTCACATTAGTATCTGTCA  
 CTCCTGGGGTCTCTGTGTCAAGACTCAGTTCTAAATTATTATGAAGAAGACACAGTAAAGAAGACGGCA  
 GTTGATTAATGGAAGAAGACTTTTACTCAATGACTTTTCATGAGTCTCTGGACCGCTGGTGGGTGACATTCAT  
 GCCCTTGACGAGGTGCATTTGGTAAAGCTATATTGCTTGAAGTCCCTAGGTCCAAAGGACAGTAAATAACC  
 AGACTTTCCAAAGTTCAAACAGAGAGCACTTGTCCCTTGTAGAGATGTTCTTGACCAAGCCAGGAAGGATC  
 ATGCAGATCCCAAGAAATTCACAGAACTACTATGGTGGTCCCAATGGAGATTAGTAGCCCTTTTAAATCACATCA  
 TTCAGCTTAATATTAACTTCCGATGAAGCCAAACAATTTTGTCTGTCAATGCTATGCTGTTTACGAAGG  
 ATTTGGACCAGGAAAAAATTAATAGGTAGAATGTTGATGAGCACTGAGCTTTCTTGGTCTCTAAGCCAAATTCAGC  
 ACCAAGAGACCACAGCTCTTGTGGGAGACTGCAGTATCTATGAATAATGATGTATCTTCTATCTTCTTCTGGCC  
 TACAGAACACCTGTTACCATGCACCTGCCTCATGAGGTGTTTGTGAGAAATTAATAATA  
 >SGPR507\_2\_SEQID\_43  
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 CTGCTCCCTATTGGGTACCTCAAGTCTACATTCACCCCTGTGTGGCGTCTCTCATCAACCCAGCTGGGTGC  
 TGGCCCGAGCTCACTGATTACCAATTTGAAAGTGTGTGGAAATTTCAAGCAGAGTCTGAGAGCGGTGA  
 CTGAACAGACAAATTACCCCATTCAGACTGTCCGCTACTGGAACACTCAGTACGCGCCACACAGGATGACCTCA  
 TGCTCATCAAGCTGGCTAAGCTGCCATGCTCAATCCCAAGTCCAGCCCTTACCCTGCCACCCCAATGTCA  
 GGCCAGGCACCTGTCTGTCTACTCTCAGTTTGGACTGGAGCCCAAGAAACAGTGGCTTTGGCAGCTGGAGCGA  
 CCAGGCACTGTGACTGTGACAGAGGCCAGCCATTCTGATTGGCAGAGACACAATTCACATGAACACGCCG  
 ACACCTGACTTGGCGAGAACTGGAGCCCTCCGTTGATGCTGATGAGAAATGCCAAACAAAGAACAGAGAA  
 AAAGCCACAGAAATCTCTATGTGAAATTTGTGAAAGTATTCAGCCGAAATTTTGGGGAGGTGGCCGTGCTA  
 CTGTCTGTCGAAAGACAGGCTCCAGGAAATCGAGGTGGGGCACTTTCATGGGAGGGGACGTCGCCATCTACAC  
 CAATGTTTACAAATATGATCTCTGGAATTGAGAACACTGCTTAAGGACAAGTGA

FIG. 1NN

>SGPR559\_SEQID\_44  
 ATGGGGAAATGATCCGCCTGCTGTTGAAGCCCTTCTCATTCGATCGCTTTTGGCCTTGATGATTTGAA  
 ATAAGCTGTTGGACACAGATCGATGCTTGGTCACAGATCCGTGCTGCTGCCATGAAGTTTTTCCCA  
 ATCATCGTATTGGATCATTTGATATTAGCACTGGCCATGGTCTGGGCATCCATTCGACTGCTCAGGG  
 AAGTACAGATGTCGCTCATCTTTAAGTGATCGAGCTGATAGCTCGATGTACGGAGTCTCGGATTGCAAGAC  
 GGGGAGACGATGCTGCTGTCGGGTGGTGGTCAGAAATGCCGTCTCAGGTGTTACAGGCTGCTTGGT  
 GGAAGACCATGTCTCCGATGACTGGAAGGGTCACTACCAAAATTTGCCGTGCCCACTGGGTTTCCAAAGC  
 TATGTGATTCAGATAACTCAGATGAGCTCGCTGGAGGGGAGTTCGGGAGGAGTTTGTGTCATCGATCA  
 CCTTTGCCAGATGACAAGTGAAGTACATACCACTCAGTATATGTAGAGGAGGGATGTGCCTCTGGCCACG  
 TGTATCCTTGCACTGTCACAGCCTGTGTCATAGAAAGGGTACAGCTACGTCATCGTGGGTGGAACATCTCC  
 TTGCTCTCGAGTGGCCTGGCAGGCCCTTCAGTTCCAGGCTTACACCTGTGCGGGGCTCTGTCATCA  
 CGCCCTGTGGATCACTGCTGCACACTGTGTTTATGACTTGTACCTCCCAAGTCATGGACCATCCAGGTGG  
 GTCTAGTTTCCCTGTTGGACAACTCCAGCCATCCCACTTGGTGGAGAAGTTGTACACAGCAAGTACAAGC  
 CAAAGAGCTGGCAATGACATCGCCCTTATGAAGCTGGCCGGCCACTCACGTTCAATGAAATGATCCAGCCT  
 GTGTGCTGCCAACTCTGAAGAGAACTTCCCGATGGAAGTGTGCTGGACGTCAAGGTGGGGGGCCACAG  
 AGGATGGAGACGGTGACGCTTCCCTGTCTGAAACACGGGCGCTCCCTTTGATTTCAACAAGATCTGCAAC  
 CACAGGACGTGTACGGTGGCATCATCTCCCTCCATGCTCTGCGGGGCTACCTGACGGGTGGCGTGACAC  
 GCTGCCAGGGGACACAGCGGGGCGCTGGTGTGTACAGAGGAGGCTGTGGAAGTTAGTGGGAGCGACCA  
 GCTTTGGCATCGGCTGCGCAGAGTGAACAAGCCTGGGGTGTACACCCGTGTACACCTCCTTCCCTGGACTGGAT  
 CCACGACAGATGGAGAGACCTTAAACACCTGA

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 ATGGAGAGGACACCCACGGGAATGCACTCTCCAGCAAGAACACCTTACGTGGAGCATCTCCAGCCCCAGGCAT  
 CTCACGTGGGACACTCCAGGCGGGCATCTCCAGCCAGGCATCTCCAGCCAGGCATCTCCAGCTGGGAC  
 ACCTCGGGCGGGCATCTCCAGCCAGGCATCTCCAGCTGGTACACTCCAGGCGGGGATCTCCAGGCGG  
 GGATCTCCAGCCAGGCATCTCCAGCCAGGCATCTCCAGCCAGGCATCTCCAGCCAGGCATCTCCGGCT  
 CTGGCATCTCCAGCTCTCAGGACAGTCATCCGCCAGGTCACTCCGCCAGGTCAAGCTCGGTGACAACTCCCCAAC  
 CAGATGTACCTTTAGAGCAACACAGTGGGCTGTACCACTCCGATCATCTCCGTCAGGTCAAGCAGCAG  
 CAACAGGGCCACAGGAGAGCCAGTCCAGTTCTGGCAGGSCCAGAGGATCAGGTACAAGAGCAGA  
 GGAGAGCTGTCCAAAGCACGCTGTTCGTGTGACGGGGTGTGGACTGCAAGCTGAAGAGTGAAGAGCTGCT  
 GCTGCGTAGGTTGACTGGGACAGTCTGCTTAAATCTACTCTGGGTCTCCCATCAGTGGCTTCCCATCT  
 GTAGCAGCACTGGAATGACTCTACTCAGAGAGACCTGCCAGACAGCTGGGTTTCGAGAGTGTCTCACCAGCA



ACCGAGGTTGCCACAGGGATTTGCCAACAGCTTCTCAATCTTGAGATACAACTCCACCATTCCAGGAAGCCCTC  
 CACAGGTCGAATGCCCTTCCAGCGGTATATCTCCCTCCAGTTCCTCACTGCGGACTGAGGCCATGACCCGG  
 GCGGATCGTGGAGGGCGCTGGCTCGGATAGCAAGTGGCTTTGGCAAGTGAAGTGCACCTTCGGACACAC  
 CCACATCTGTGAGGACGCTCTATTAGCCCGAGTGGCTGCTCACTGCGCCACCTGCTTCTCGTAGCCCGG  
 GAGAAGGTCGTGAGAGGCTGGAAGGTGTACGCGGGGACACGACCACTGCACCACTTGCCTGAGGCGAGCTCC  
 ATTGCGAGATCATCAACAGCAATTACACCGATTGAGGAGACGACTATGACATCGCCCTCATGCGGCTGTG  
 CAAGCCCTGACCTGTCCGCTCATCTCACCTGCTTGCCTCCCATGCAATGGACAGACCTTTAGCCTCAATG  
 AGACCTGCTGGATCACAGGCTTTGGCAAGCAGGAGACAGATGACAAAGACATCCCTTCTCCGGAAGGT  
 GCGAGTCAATCTCATAGCTTCAAGAAATGCAATGACTATTGCTGTATGACAGTTACCTTACCCCAAGGATGAT  
 GTGTGCTGGGGACCTTCGTGGGGGACAGAGACTCTGCCAGGAGACAGCGGGGGCCCTCTTGTCTGTGAGCA  
 GAACAACCGCTGGTACCTGGCAGGTGTCACAGCTGGGACAGGCTGTGGCCAGAGAAACAACCTGGTGTG  
 TACACCAAGGTGACAGAAATCTTCCCTGGATTTACAGCAAGATGGAGAGCGAGGTGCGGATTCAGAAAAATCCTAA

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 GGCTGTGGTCGSCCCAGCATGGAGGGGAAATCTTGGGGGGCTCCCTGGCGCCGAGAGGAAGTGGCCGTG  
 GCAGGTCAAGCTGCTCACTACGAGGCTCCACGTCTGCGGGGCTCCATCTCAATGAGTACTGGTGTGTGCA  
 GCTGCGCACTGCTTTACAGGGGACAGAAATATCAAAATCTATGACATGTACGTAGGCTCGTAACCTCAGGCTG  
 GCGGCAACCAACCCAGTGGTATGAGGTGAACAGGGTGTCTCGACCCCATATGAGATGTACCAACCCCAT  
 CGGAGGTGAAGTGGCCCTGGTGCAGCTGAAGCCCGCATTTGTTTTCTGAGTCCGTGCTCCCGTTTGCCTTG  
 CAATCCAGAAGTGAACCTTACCAGTGCCAAATGCTGGGCTACGGGATGGGGAGTACTCTCAAAACAAGGTGAG  
 ACCTGACAGAGCTGACAGGAGTGCAGCTCCGCTGATCTGGAGCCCTGGTCCACCTGCTCTACGGACACA  
 GTGCTACATCATGCCCGACATGCTGTGCTGGGGACATCCTGAATGCTAAGACCGTGTGTGAGGGCGGACCTCC  
 GGGGGCCACTTGTCTGTGAATTCACCCGACGCTGGTTGAGATTGGAATGTGAGCTGGGGCCGAGGCTGCT  
 CCAACCTCTGTACCTGGAGGTATGCCAGTGTTCCTATTCTCAAAATGGATATGTGATAACATAGAAAATCAC  
 GCCCACTCTGCTCAGCAGCCCTGCTCTCTCTCCTCAGCTCTGGGGCCCATCTCAGCGTCTCTAATGGCCATGC  
 TGGTGGCTGCTCAGTGTGCTGA

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ATGAGTCTCAAAATGCTTATAGCAGGAACAAGCTGATTTTACTACTAGGAATAGTCTTTTTTGAACGAGGTAAT  
 CTGCAACTCTTTCGCTCCCAAGGCTCCAGTTGGGGCAGAGTCTGGTTAAGGTACAGCCTTGGAAATATATTTTA

FIG. 100

FIG. 1PP

ACAATTTAGTCGCATCTTTGGAGGAGCCAAAGTGGAGAAGGGTTCCCTATCCCTGGCAGGTATCTCTGAACAAA  
 GGCAGAGCATATTTGTGAGGAGCATGCTCTCACCAAGTGGGTGATCACGGGGCTCACTGCAATTCGCAAC  
 AGAACATTTGTCTACTTTGAATGTTACTGTGAGAGTATGACTTAAGCCAGAGACCCAGGAGCAAACT  
 CTAATGTTGAACTGTCATACATCCACATTTCTCCACGAAGAACCAATGGACTGATATGCGCTTTTGAA  
 GATGGCTGGAGCCTTCCAATTTGGCCACTTTGTGGGCCCATATGTCITCCAGAGCTCGGGAGCAATTTGAGG  
 CTGGTTTATTTGTACAACCTGCAGCTGGGGCGGCTTAAGTGAAGTGGCGTCTCTCACAACTCTTCAGGAA  
 GTAACTTCCTTATTTGACCTGGGAAGAGTGTGGCAGCTCTGTTAACTAAACCTAAAGAGCCCCATCAGTGGAA  
 GACCTTCTTGTCACAGGTTTCTGTATGAGGGGAGAGACGCATCTCAGGGAGATTCAGGAGTTTCACTCATGT  
 GCGGAAATAGAAAGGGCTGGGACTCTGGCTGGTCAATTTGGAGGCTCAGTGGGAGATCGCTTGAGTC  
 CAGGAGTTCAAGCAAGCCTAGCAACAAGTGAGACTCTGTCTCACAATAATTTCTCAAAAATTTAGCCGG  
 GTGTGGCACTGTGTCAGTGAGAGGATGTCTATGTCAGGGGGCTCAGGGGAAGCTGCATCTCCAGAAAGC  
 CTCACCTATAITATGAGAGCAAGCAACGGTGTCTGGACCTGCTGGTACCAGAGGAATGCATGTGTGCT  
 CAGTTTCCCACTAGATGTTGAGCTTTGTACACACAGTTACCTGTCAATTAITCTTTAGAAGACAGACCCATT  
 GGAAATTTGTGGAGAAAGCCTCCCTTCATCCATTTCTATTGGCTCTAAATCTCTAAGGCTGAAATTCGTCTCTG  
 ATGCCACAGATTATGCAGCTGGGTTTAATCTTAACCTATAAGCTTTAAACCAAACTACATTCTGTGTTGCAGTTA  
 CTAACTGTCTTTTGAAGAAGTCTCATACAGAGTCTAAACTATCTGAAACTACAGTGACAAGSCTAACTGT  
 GACTGGATTTTCAAGCCTCCAAACATCACTAATAAGCTTTCAATTCAGAGCTGTGAAATAGAAAGTGGAG  
 ACTGCATTCGAGCTATGTGACAGTGCACAGGATGTAGAAGGAAGGAAGAAATAGCTGGGCTGTGTGGCTAT  
 GATGTCCCCACCCCTGTGCTGAGCCCCCTCCAGCATCATGCTCATCAGCTTCCATTGAGTGAACACGGGACCTG  
 CAGGGGCTTTCAGGCTATAGTCTCCTTCACTTCTTAAGCAGTATACCCAGATTTTAAACATCTCCATATCAGAGAT  
 GAGTCAATGTTTCTGGAGACATGA

>SGPR465\_1\_SEQID\_48

CGGTGGCCATGGCAGGCCAGTCTCCTCACTAGGGGGGCACATCTGTGGAGCTGCCCTCATCGACAGCAACT  
 GGGTGGCCTCTGCTGCTCACTGCTCCAAAGATGCATCTCCCTCCAGGGGCCCGCTGCCACTAACCCATCT  
 GATTACCGGATCTGCTGGGTATGACCAAGGATCCACAGAGACACAGCAGAGATGACAGTGAATAAC  
 GATTATGCTGCAGCTGACTATACAGTTGCACCGCATGGGAGTGACATCACCTGCTGCAGCTGCACTATC  
 ATGTGGAATTACGCTCCACATCTCCCGCCTGCCTTCGGGAACCAACACAGTGGCTGGCCCTGACAGCTCC  
 TGCTGGATATCTGTTGGGAATGTCACCGAGGATGTCITCCTGCCGTGAGCCCTTCAACTTCAGAGGCGAGA  
 GGTCCGTGTCATGGACAACACTGTCTGCGGATCTCTTTTCCAGCCCACTACCCCGCCAGCCCAAGCAGGATG  
 ACTACACATCCACGAGGACATGCTGTGCGCTGGGGACCTCATACAGGAAGGCCAATTTGCCAGTGAACCTC  
 AGGGGTCCCCTCGTCTGCCCAATTAATGGCACCTGGTTCTGATGGGGCTGTCTAGTTGGAGCCTCGACTGCTG

FIG. 1QQ

CTCACCCGTGGTCCACGGGCTCTCACAGGCTCCCTACTTCACCAACTGGATCAGCCAGAAGAGGGAGA  
 GCACCCCTCCAGATCCCGCTTGGCTCTCTCAGGAACACCCAGCCCTGGACAGCATGACCTCTCAGGG  
 CATGTCTCCAAAGCCCGGGCTCTGGCGAGCCCTCTGGCTGCTCACATGTTCCCTCCTGCTGCTGATTTCTCTGG  
 GGAGCCTG

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 CACCAAAAGACCCATTGGCAAGCCAAACCAAGAAAGAAATCAAGAAAAAGTTCCCTTTTGGAAATGTACAAA  
 ATAAATCATTTCTTCACAGTATTTTATTCTCTAGCAGTCATAGCCCTGGACACTCTGTGGCTGTATATCAGT  
 AAAACAAGAACCAAGATGCTTTTACTTTGCTGGGATGTTCCGATCAACAATGAGTTTCTCCCGAATACC  
 GACAAAGGAGTCCAGGAAATTTCTTTTTCAGTGTACGGACTGTGCGCAAGTGATAAACCTGGTTTATACAACAT  
 CTGCCCTTCTCCAAATTTTATGAGCAGTCTGTTTGCAGATGTCAGCAGCAACAAAGCGGCCCTCTTGTCC  
 ACTTTGGATGTTTTTGTATGCCACGTGCCAAGGGCCACTCTGTGGGAGCTTGCAAGGACTGGTGGCCATCTTGAA  
 GGACTCCATCCAGCAAGCATCATAAACCGGACTCTGTGGGAGCTTGCAAGGACTGGTGGACATGGAC  
 TCTGTGTAATAATGGTGATTGTTGGTCAATTCCTAAAAAAGAAAGAAAGGAAATGGTGTCTCCACAG  
 ACAAGGCTGCTCTCAGTACTTCTATGACAGCATCTGTCTCCACTACCCCGCTGGAGATTCTGCAGCCCTCAG  
 GGAGGCTGATGTCTCACTTCAAGCTGGTGGCCATAGGGCTACCTGATTGCTCTCTCAATCAAGTCCATCCAAA  
 TCGAAGCCGACAACTGTGTACTGACTCCCTGACCAATTAAGCTCCCTTTTGCCTCCGAGCAGCATCTTGT  
 ACAGAAATTTGGAACCCACAAGAACATTAATGTCAATTTGTTTACAAATAATCTCATGTTGGTGAATTAAGTCT  
 CCTCATATACGGAGGCTCTCAGGAATCCGGGCATATTTCAAGCCCATATTACCCAGCTACTATCTCCTCAAAATGCA  
 TTGGTCAAGACATCACTGGCTTTGAAGGGAAATTTCAAGCCCATATTAGAGCATCTATAACTATTCAATTAACCAAG  
 AGTGTACCTGGAAATTCAGACTCTCTATCAACTCTTGGCATAGCATCTTACGACATGTAAGTGTGGCTCTACATGGATCAT  
 AAGAGTATAAAGGCTGTGAGCATGGATGGTGGGAAATTAATGAGCAGTAACTGATGCTGCTCAGACAGGCTTTCAGACAAGCCA  
 CAGACAAATTTTCGAGTGGCCAGCCCTGTGTCACATTCAGCTCCAGCTTCAAGGCTTTCAGACAGCAAGCCA  
 CTTTGGCAGAAATAGGAGTTACAACTCTTGAGGAGTAATGACTGCTTTGATGAAAGTATGAAGTGTTCGCGTAGGCC  
 GTGCCCTCAGGCCACGCGTTGTGATGGAGTAATGACTGCTTTGATGAAAGTATGAAGTGTTCGCGTAGGCC  
 ATATGGCCGGATGAGCAAACTGCACTCAAAAGTATTCATTCACCAACACAGAACTTTTAAAGTGTGGCAATGATATT  
 TGCTTTAGGAACAATAATGCAAAATGTATGGGACAGTGGATTGTCAGATGGAAGTGAAGGAGGCTGCAC  
 CTGACGACGGAGTTCTCCGCCCTTCAACCGCATCATCGGAGGACAGACACCCCTGGAGGGGGGTTGGCCGTGG  
 CAGGTGAGCCTCCACTTTGTTGGATCTGCTTACTGTGGTGGCTAGCTCATCTCCAGGGAGTGGGCTTCTTCTGCA

FIG. 1RR

GCCACTGTTTTCATGAAACAGGCTGTGAGATCCACACCATGGACTGCACACCTCGGGATGTATGTTCAAGGG  
 GAATGCCAAGTTTGTCCTCCCGGTGAGAAGAAATTTGGTCCACAGTACTATAACAGTCAGACTTTTGTATTATGA  
 TATTGCTTTGCTACAGCTCAGTATTGGCTGGCTGAGACCCCTGAAACAGCTCATTACGCCAATATGATTCCTCC  
 CACTGGTCAGAGAGTCCGAGTGGGAGAGTCTGGGTAACTGGCTGGGCGGAAACAGACAGCAAGATAT  
 AAAGGCTCCCTGCTGTCAGCAAGCGAGGTAGACTTAACTCAACAGCTCTGTGTTCCACCTACGGGAT  
 CATCACTTCTCGGATGCTCTGTGCAGGCATATGTCAAGCAAGAGAGATGCCCTGCAAAAGGAGATTCGGGTGGAC  
 CTTTATCTTGTGGAAGAAAAGTGAAGAAATGATTTGACTGGCATTTAGCTGGGACATGGATGTGAC  
 GACCAAACTTTCTCTGGTGTTCACACAAGGGTGTCAAACTTTGTTCCCTGGATTCATAAATATGTCCCTCTCTTTT  
 GTAA

>SGPR422\_SEQID\_50

ATGACATTGAACAAATTAAGAGCTTTTGCAGGGAAAGGACAGTGGGATTTGGCACCCGAAAGCAGAAATGCTG  
 AAGCCATGGATGATTGCCGTCTCATTTGTTGTCCTGACAGTGGTGGCAGTGACCATAGGTCCTCGTGTTCAC  
 TTCTAGTATTTGACCAAAAAAGGAGTACTATCATGGCTCTTTAAATTTTAGTCCACAAATCAATAACAATTT  
 CGGACAAAGCAACACATATCAACTTAAGGACTTACGAGAGCAGCCGAAATTTGGTGATCTTTGAAATGTAC  
 CTTTCTTTTGTGTCAAGTCCAGAGGAAGATGGTGAAGATAGATGTCAATTAATCAGAAGATAAGGAATTTAAGAGCCTTGC  
 CTGAACAAGGGCAGTAAGAGAGAAGAAATCCAAAGCATCTTAATCAGAAGATAAGGAATTTAAGAGCCTTGC  
 CAATAATGCCCTCATGTTCAAGTTAATGTGGCCATGGTCAAGATGGCAATGGCAATGGGGCCAGGTTCCGGAGCA  
 GGAGAGCTCCAGGCTGGGAGCAGTCTGCTGGTCCACCAATGAGCTCATCAACAGGGGAGTTAACTGTCC  
 AAGCAAGTTGTGTAACGAGTTGTTCCATTAACTCAACAGATAGCATCTGGAGTATTGACCCCAAGGGCGG  
 CCTGGCTTGGGAAGCTCCCTCAGTATGATCAATCCATCAGTGTGGGCCACCTTGATTAGTAACACATGGC  
 TTGTCACTGAGCACACTGCTTCCAGAAGTATAAATCCACATCAATGGACTGTAGTTTGGAAACAAATCAAA  
 CCCTCCCTTAATGAAAAGAAATGTCAAGAATTTATTCATGAGAAGTACCGCTCTGCAGCAAGAGATACGA  
 CATTTGTTGTGACAGTCTCTCCAGAGTCACCTTTTGGATGACATACGCCAGATTTGTTGCCAGAAGCCTC  
 TGATCTCTTCCAAACAAATTTGACTGTCCACATCAGAGATTTGAGCACTTACTATGGTGGGGAATCCAAAT  
 GATCTCCGAGAACGCCAGTGAATATCATAGTACGATGTCTGCAAGCAACACAGGTGTATGGCAATGATATA  
 AAACCTGGAATGTCTGTCGGGATATGGAAGGAATTTATGATGCTGCAGGGGTGATTCGGGGGACCTTTA  
 GTCAAGGGGATCTGAAGATACGTGTATCTCATTTGGAATTTAAGCTGGGAGATAAATGTTGTCAAAAGGAC  
 AAGCCTGGAGTCTACACAAAGTGACTTATTACCGAACTGGATTGCTTCAAAAACAGGCATCTAA

FIG. 188

>SGPR538\_SEQID\_51  
 ATGAGCGTGATGCTGGATGACCAACCCCTATGAGGGCCCAAGTATGACAGAGAGGGCCCCAGGACCTGGGATCT  
 TCAGAGAGAGCTGGAGACAGACAGCATCCCATTTCTAGGGGGTGTGCTGGCGCTTCCATGCGACGTGGCTG  
 TGCAGTGTGGAGCGCTGGCGCTGGCGGCTGTGGCTGTGGCTTGGCTCTAGTGTGCTATCTGTGT  
 CCTGCTGCCCTCAGCCCCATTTCCGGGACCTTGAGGATGAGGAGATAACTTTAGCTGCTCAGAGGCCACGCG  
 TGAAGACTGTGCTCTGCTGCACTCCCAAAACAGTATCTTCAGATAAACAGCAGAACCTTCTGCTTGGGAAGC  
 CAGAGTGGAGATCAGCCACGCTGGCTCCTGGTCTGCCATGAGGGCTGAGCCCCGCCCTGGGCTGCAGAT  
 CTGCTGAGGCTTTGGGCATCTCAGACTCACTACCAAGGAGTAACTCACTGACATCAAACTCAACAGTTT  
 CCAGGAGTTGCTCAGCTCTCTCTAGACTGGAGGCTTCTTGAGGAGGGCTGGCAGCCAGGACAACCTG  
 ACTCTGGTCAAGTTGTTCCCTCAGATGCTCTGAGTGGAGCGAGGCCCTGGCTTCCGGCACACGTGTGGGG  
 CGAGTCTGGCTCTGGCGCTGGCGTGGCAGGCCAGCTGCCGTAGGCCCCAACAGGGGCTCTGGTGGAGAGGA  
 CTCTGTGCTAGCGCCACGCTGGGTGCTGACTGCTGCACATTGATGCACAGTTTCAAGGCTGGCCCCGCTGTCCA  
 GCTGGGGTTTCAATGGGGTGGTCAAGCCAGATGCTGCTAGGCCCCAACAGGGGCTCTGGTGGAGAGGA  
 TTATCCACACCCCTCTACAGTGGCAGAACTCATGACTAGACGCTGCCCCCTCTGAGGCTCCAGACCCCTCTC  
 AACTTCTCAGACACTGTGGCGCTGTGCTGCTGCCGCCAAGGAACAGCATTTTCCGAAGGCTCGCGGTGCT  
 GGGTGTGGCTGGGCCACACCCCTAGCCATCTACAGCTCGGATGCTCCAGGACACGGTGGTGCC  
 CTTGTTCAGCACTCAGCTGTGCAACAGCTCTTGGGTGACAGCGGAGCCCTCACCCCGCATGCTTTGGCGTG  
 GCTACCTGGACGGAAGGCTGATGATGCCAGGGAGATAGCGGGGGCCCCCTAGTGTGCCACAGATGGGACA  
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 AGGTAGCTGAGTTTCTGGAAGTGGATCCATGACATGCTCAGGACTCCCTCTCTGA

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 ATGCCCGGCACCTGCTCTCCCTTGTGATGCTGTGTCATCATGTCCTCCAGGAGCCCTTCCAGGACTCAGC  
 TCTCAGTCTTACCCAGGAAGAACCTGAAGATCTGGACTGCGGGGGCCCTAGCCCCCTGCGCCGCTATCGTGGG  
 GGCTCAACCGCGGACCTGCGCTTGGCAAGTGGCCTGACCATGGAGGTGGCCACATCTGCGGG  
 GGCTCCCTCATCGCCCCCTCTGGGTCTCTCCGCTGCTCACTGTTTATGACAAATGGACGCTGGAGCCCG  
 CGGCCGAGTGTGCTGCTGGCGTGCATCTCCAGGAGGGCCCTGGAGCGGCCACACCCGCGCA  
 GTGGCGCCACTGTGGTGCCTGGCCAACTACAGCCAAATGGAGCTGGGCGCCGACCTGGCCCTGCTGGCGCTG  
 GCCTACCCGCGACCTGGGCCCGCGTGTGGCTGTGCTGCTGCGCGCCCTCACACCGCTTGGTGAC  
 GGCACCGCTGCTGGGCCACCGCTGGGAGACGTCAGAGGACAGATCCTCTGCCCTCTCCCTGGGTGCTA  
 CAGGAAGTGGAGCTAAGGCTGCTGGGCGAGGCCACCTGTCAATGTCTCTACAGCCAGCCCGGTCCTTCAAC

FIG. 1TT

TCACCTCCAGATATTGCCAGGGATGCTGTGTGCTGGCTACCCAGAGGGCCCGCAGGACACCTGCGCCAGGGTGA  
CTCTGGGGGCCCTGGTCTGTAGGAAGCGGCGCGTGTTCAGGCAGGAATCACCAAGCTTTGGCTTTGGCT  
TGTGACGAGAAACCGCCCTGGAGTTTTCACCTGTGTGCTACCTATGAGGCATGGATACCGGAGCAGGTGAT  
GGGTTCAGAGCCTGGCCCTGCTTTCCACCCAGCCCGCCAGACCCAGCCAGATCCCGAGGAGCCAGGAG  
GAGAACTGCACCATTTGCCCTGCTGTGTCGGGGAAGCCCGCGCCAGGGCCCTGCGCTGGAGGCCAG  
GTGATGGTCCAGGATCCAGACCTGCCATGGGGCGTGTGTCTGAAGCTGGGTCTTGGCACTGCCAGCT  
GCTTTTGACCCGAAACAGCTGCCACAGCCACCCCGACCTCGACCTCGAGCGCTGCGCGCTGTGCTACCCCAACCGGAAC  
CCCGCGCGGAGCGGGTGGCGCGCTGTGACGACGAGAACGCTTCGTGGGACAAACGCTCGGACCTGG  
CGCTGTGACGCTGCGACGCGCGTGAACCTGAGCGCGCTTCGCGCGCTGTGCTACCCCAACCGGAAC  
ACTACTTCTGCCCGGAGCGCTGCGCGCTGGCCGCTGGGSCCGCGGGAACCCCGCTTGGGCCAGGC  
CGCTGTGGAGCGGAGCTGTAGCGGCTGTGTGCTGCTGCTGTACGGCCCGCAGGGCGCGCAGTGA  
CCGCTGCCCGGAGACCCGCGCACGCGCTGTGCCCTGTCCAGGAAAGGAGGAGGTGGCGAGCTGGCTGG  
ACTCATGGCCCATGGATCAGCATGTGACTCGGGGAGCCTACCTGGAGGACAGCTAGCCTGGGATTTGGGGCC  
CTGATGGGGAGGAGACTGAGACACAGACTTTGCCACACACAGAGCATGGTGCCTGTGGCTGCGGCTGGGA  
GGCTGCTCCAGTGGGGTCTGTGGCCCTGGCTGGCAGAGGTGCATGTGGCTGGTGCATCGAGCTGCACCTG  
GATCCTCTGGCCCGGCTGGTCTTGGAGCCACTCACTGTGCTCTCAGGCCAGGCTCTACAAACAGTGCCTT  
ACATTGAAGTGTATCTGGCGGGCAGGGCCAGCTCCCTCCACAGAGGCAACCCAGGTATCCCGCTTGGTCAT  
CAGCATCCGGCTGCCCGACACCTGGGACTCAGGCCCGCTCTCGCCCTCTCGAGCTGAGCTCCCGGGTGA  
GCCCTCCCATCAGCCCTGCCATCTGTCTCACCGCGGGGTATCCCGCGGGGCGAGCTGCTGGGTGTG  
GGCTGGAAGAAACCCAGGACCGAGTCCCTGTGGCTGTGCTGTCTCATCTTGACACAAAGAACTGTGACTG  
CCTCTATCAGGGCATCTGCCCGCTGAAACCTCTGTGTCTGTATGACAGGGGCGAGGAAACAGGTGTGAG  
ATGACCTCAGCACCGCCCTCCTGTGCAGATACGGAAGGCTGGAATCCTCGTGGGCATGGCTGTTCAAG  
GGAGCCGGAGCTGTTGTGCTGCAATTGGCTGAAGAGGCTGGAATCCAGACAGTGGGAGAGGCCAACTT  
CCTGCCCGGAGTGGCTCCCACTGGCCACTGGAGGACGAATCTCTGCCCGCCAGAACTGCGCCAAAGGCC  
TCGGGATCCCGCATGCAGTCTACTTCTCTCTCTGCTGACTCTCTCTGATCCAGAGCTGA

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GCCATGGGGGCTCGGGTTGAGGGGCTGGGAGCTCCTCTGCTGACTGTGGCCACCGCCCTGATGTGCTGCCGTG  
AAGCCCCCGCAGGCTCTGGGGGGCCAGATCATCGGGGGCCACGAGGTGACCCCCCACTCCAGGGCCCTAC  
ATGGATCCGTGCGCTTCGGGGGCCAACATCACTGCGGAGGCTTCTGCTGCGAGCCGCTGGGTGGTCTGG  
CCGCCACTGCTTACGCCACAGAGACCTCCGCACTGGCCTGGTGTGCTGGCGGCCCACTGCTGAGTACTGC  
GGAGCCCAACCCAGCAGGTGTTTGGCATGATGCTCTCACACACACACCCCGACTACCAACCCCATGACCCACGCG

AACGACATCGCCTGCTGCACTGAACGGCTCTGCTGCTCTGGGCCCTGACGTGGGGCTGCTGAGGCTGCCAG  
 GGAGAGGGCCAGCCCCACACAGCGGGACACGGTCGCGGGTGGCTGGGCTTGGGCTTGGTCTGACTTTG  
 AGAGCTGCCGCTGGACTGATGAGGGCAAGTCCGAGTGTGACCCGGACGTCTGCAACAGCTCCTGGAA  
 GGGCACTGTACACTTACCATTCTGCACCGCGAGTGGGGACACCAAGACGGGCTTCTCTCGGCGAC  
 TCCGAGGGCCCTTGGTGTGACGAAACCGGCTCAAGGCCCTGTTTCTCTCGGGCTCTGGTGGCGGAC  
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 GTCCGAGCCCGGCCCTGCTGGGACCAACGAGCCCCAGGAGAGCGCCCTGA

>SGPR551 SEQID 54

ATGCCGTGGCCGAGGGCCCCCAGGTGGCTGGCGGGCAGGGGGACGGAGGTGATGGCAGGAAGCGGAGCC  
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 GTGCTGTGGCCCTGCTGCTGGCTTCGGCGGGGTGCTACTCTGGTATTTCTTAGGGTACAAGCGGAGG  
 TGATGGTCAGCCAGGTGACTCAGGAGTCTGCTGTACTCAATCGCCACTTCTCCAGGATCTTACCCGCGG  
 GAATCTAGTGCCCTTCGCAAGTGAACCGCAAGCCAGAGATGCTCAAGGAGCTCATCCACGACCCGCT  
 GGGAACTTACTACAACTCCAGCTCGTCTATCTCTTGGGAGGGAGCCCTCACTCTTCTGCTTCAITCT  
 CCAATCCCGAGCACCGCGCTGATGCTGAGCCCGAGGTGGTGAGGCACTGCTGGTGGAGGAGCTGCT  
 GTCCACAGTCAACAGCTCGGCTGCCCTACAGGGCCGAGTACGAAGTGGACCCGAGGGCTAGTGATC  
 GGGCAGGCTCTCCGGCTGAAGGGCTGACCACCTGGCTCCAGCTGCTTGGCACCTGCAGGSCCCCAA  
 GGACCTATGCTCAAATCCGGCTGGAGTGGAGCTGGCAGAGTCCGGGACCGACTGGCCATGTATGACGTG  
 GCGGCGCCTGGAGAAGAGGCTCATACCTCGGTGTACGCTGCAAGCCGCAAGGACCCGCTGGTGGAGGTT  
 CTGGGCTGGGGGCCATCATGGCGTGTGGAAGAGGGCTGCAAGCTACTACGACCCCTTCGTGCTCT  
 CCGTGCAGCGGTGCTTCAAGGCCCTGGAAGTGAACCTGACGTGGACACAGGCTCGACTCCCAAGGCGT  
 CCTAGCACCCGTACTTCCCCAGCTACTCGCCCCAAACCCACTGCTCCTGGCACCTCAGGGTCCCTCTC  
 TGGACTAGGCTTGGCCCTTGGTTGATGCTATGCACTGAGGAGGAGAAGTATGATTTTGGCTGTGACCCG  
 GGCACTGGACATCCAGAACAGAGGCTGTGTGCTTGGCATCTGCAAGCCCTACGCCGAGAGATCCCCG  
 TGGTGGCCACGGCCGGATCAACATCAATTAACCTCCAGATCTCCCTACCGGGGCCCGGTGTGGGGTGCA  
 CTATGGCTTGTACACCACTGGACCCCTGCCCTGGAGAGTTCCCTGTCTGTGTAATGGACTGTGTCCCTG  
 CCTGTGATGGGTCAAGGACTGCCCAACGGCCGTGGATGAGAAACTGGTGTTCAGAGCCACATCCAGTGTG  
 CAAAGAGGACAGCATGCATCTCATGCCAAGGTCTGATGGGACGCTGATGTCTCAACGGCAGGATG  
 AAGACAGTGCAGGAAGGGTGCATGTGGGACATTACCTTCCAGTGTGAGGACCGGAGCTGCGTGAAGAA  
 GCCCAACCCGAGTGTGATGGCGGCCGACTGCAGGGACGGCTCGGATGAGGAGCACTGTGACTGTGGCT

FIG. 1UU

FIG. 1W

CCAGGGCCCTCCAGCCGCAITTTGGTGAGCTGTGTCTCCAGAGGGTGAAGTGCCATGGCAGGCCAGCCTC  
CAGGTTCCGGGTGCACACATCTGTGGGGGGCCCTCATCGCTGACCGCTGGGTGATACAGCTGCCCACTGCT  
TCCAGGAGGACAGCATGGCCCTCCACGGTGTGTGACCGGTTCCTGGGCAAGGTGTGGCAGAACTCGCGCTG  
GCCTGGAGAGGTGCTCTTCAAGTGAAGCGCTGCTCTGCACCGTACCAAGAGGACGCCATGAATAC  
GAGCTGGCGGTGTGAGCTCGACCAACCGGTTGGTGGCTCGGCCCGCTGCGCCCGCTGCTGCTGCGCCGG  
CGCTCCCACTTCTGAGCGCGGCTGCATGCTGGATTACGGGCTGGGCGCCCTTGCAGGAGCGCGGCC  
ATACGACACGCTCTGCAGAAAGTGGATGCGAGTTGATCCCAACAGGACCTGTGCAGCGAGGCCATCGCTACCA  
GGTGAGCCGACGATGCTGTGCGCGCTACCGAGGCAAGGATGCCCTGCAGGGTGACTCAGGTGGT  
CCGCTGGTGCAGGGACTCAGTGGCGCTGGTTCGTGCGGGGCTGGTCACTGGGCGTGGGCTGTGGC  
CGGCCCTAACTACTTCGGCGCTACACCCGACACAGGTTGATCAGCTGGATCCAGCAAGTGGTGACCTGA

>SGPR451\_SEQID\_55

GACCTGCCGCCATCTTGCTCACCAGCCTCCAAATGGCGCTGGGCTCCTGAGCGTGGCGCTGTTGTTGTGG  
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GGTAGTTCAGGAGGCTTGGCCGTCGCAAGAGGCTCCGCGCGGAGGAGGAGGCGGCGCATGCAA  
AGGATTGTGAACAGCAGCCGCTTAAGGATGTTGCAAGGCTCGGATTATAGGGGACCGGAAGCAAGCT  
GGCGCATGGCGGTGGGTGCTCAGCTGCCAGTAAATATGGCGGTCTTCTGTTGATGTATGTGGGGAAACCT  
AGTGAGAGAGGTTGGTCTCAGAGCTGCCACTTAAGACACTAGCGATCCCTTTAATGTGGACAGCTG  
TGATTGGAACATAATACATGAGCCTATCTACCAAGAGATAAAATTAAGCAATCAATTATTCATCCA  
AAGTTCAATTTGGAATCTTATGTAATGATATGCATTTTTCATTTAAAGAGAGTGAAGTATATGACTATAT  
CAGCCTATTTGCCCTACCTTTGATGTTTTCCAAATCCTGGACGGAACACAAAGTGTTTATAAGTGGCTGGGAA  
GAACAAAGAGGAGTGAAGCTACAATATTTTACAAGTGCAGAGTGCATATATTTCTCGAGAGATGTGTA  
TTCTGAGAGGAGTATGGGGAATAATCTCAACATTCATTTGTGCAAGGTGATGAAGATGGAGCTTTTGATACT  
TGCAGGGGTGACAGTGGGGACCATTAATGTGCTACTTACCAGATATAAAGATTTTTGTAAATGGGAATTACC  
AGTTACGGAGATGGCTGTGTCGAAGAGGTTTCTGGTGTATATGGGCATCCTCTACCAAAAGTGGCTG  
ACAGAGCATTTCTCCACTGCAAGCCTCAAGGCATCTACTATAAATATTTTACGTGGCCAGATCCCTCATAGCTT  
TATGTTTTGTTCTTACTAGCAACAATAA

>SGPR452\_1\_SEQID\_56

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CAGCCCTCAGACTGGCTGTGCTTCGCGGATCTTGGCTGCTTCGAGGCTGATGGAGCTGCCCACTCCACTGGGCC  
TGGGCAGCAGCTTGAAGTGGCGTGGGCCAAGCCCTCTGGGATGCCCTGCCAGAGAAATGACCTGGTGGGCAT



FIG. 1WW

TGTGGGGGGCCACAATGCCCCCCCCGGGGAAGTGGCGGTGGCAGGTGAGCCTGAGGGTCTACAGCTACCACTG  
 GGCTCTGTGGGCGACA TGTGGGGCTCCCTCATCCACCCAGTGGGTGCTGACTGCTGCCCACTGCAIT  
 TTCTGGAAGGACACACCGGTCCATCTACCGGATCCAGCTGGGAGCGTGTATCTACGGGGCCGGGGG  
 TGCTGAAGCTACGCGGATCATGTCACCCCACTATGCTACTGCGGGCTGGGTGGGATGTGCCCTGCT  
 CGAGCTGCGGGGTACCTCTCTCCACAGTGGTCCCGCCCTACCGCCCTGCAGCAGCGAGTGTGCA  
 GGTCTGAGAACCGCGTCTGTGAGCAGCCCTACCGAACCGCTCAGGGACACACTGGCACCGGACGCTCATC  
 CTGGATGACATGCTGTGCCGACGAGGGCCGAGACTCTGCTACGTGACTCCGGCGGCCCTCTGGTCT  
 GCAAGCTCGGGGGTCTGGCGCTGTGTGGGGTGTGAGCTGGGGCTACGGCTGTACCCCTGCGGGACTTTC  
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 GAGAGTCAGGTTCTCCCGATTGACAGCAGGGGACGCCGACAGCCCAATTCCTCCCTTGGGTCTGGAG  
 CTGCATTTCTGAAGTCTGGTCCCTTCAGGATCTGGCAGGGGTGAACCAAGGAGAGAGGGGACAGAGA  
 CACGGGCACCTGCTGGCTATGCAATCACGCTGCTCTCTGCTGGGGTTCGGGTGAGCCGCCAGATGGGTCT  
 GTGGCGGCCCAACAGTCTCATCTGCTATGCTCAGGCTTGGGGCTAGTGTGGGACGTGGCCCTGGCAGGT  
 CAGCATCCGACAGGGCTTGTTCACGCTGCTCAGATACCCCTCATCTCAGAGAGTGGGTGCTGACAGTGGCGA  
 TCGCTTCCCATATCCCCCAACCTGATTTCCAGCAACACATCTAGTCCCATCGCTGTGGTAGAAGTCCCT  
 CCCAGTTCTGTAGCCCTGTTGCTGCTCATCTGCCCTCCCTCATCTGAAGTCACTACCTGAAGAAATCAAC  
 CTCTGCTGGGTGACTGGGGCTA CTGGAATATCCAATATCAAGCGTTCTTATACACTGAAGGAGCT  
 GAAAGTGCCCTCATGATCTCCAGACATCGGTGACCACTATCAAAATGAATCTTGCTGCACGAGTTGAGCT  
 CATCATGATGAAGCTATGCTGCTCCAGCTCCCAAGTGGGGCAGATGGATCAGTGTACTGTGAAGATCCACC  
 CCTCAGGCACCTTTACAGGGCTTTCGCTTCCCAAGTGA

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 TVTDVHIPQNGSRALLAFLEQANIQYVLIEDLQKLEKSSHLTQRNRRSLSGVYEVYHSLSEEQNMHHLNKTSH  
 GLIHMFISGRSYEGRCFLIKLGRSRLKRAVWIDCGIHAREWIGPACQWFVKEALT TYKSDPAMRKMLNHLFYIMP  
 VFNVDGYHFSWTNDRFWRKTRSRNSRFRRCRGVDANRWKVKWCGKFGTNWDPPKV/SAGFTLQNMSPEDSHGR  
 LMFFCM

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 MKPLLETLLGMLVPGGLGYDRSLAQHREQEIVDKSVPSWSETSYNYHPMGEIYEWNRSEISEKYKEVLTQHFGLV  
 TYETHPMYILKISQPSGNPKKIWMDCGIHAREWIAFACQWFVKEILQNHKDNSSIRKLLRNLDYVL/PVLNIDGYIYT  
 WTTDLRWRKSRSPHNINGTCFTDILNRNFNASWCSIGASRNCQDQTCGTPVSEPETKAVASFESKDDILCFLTM  
 HSYGQLILTPYGYTKNKSSNHPMIOVGQKAANALKAKYGTNYRVGSSADILYASSGSRDWARDIGIPFSYTFELRD  
 SGTYGFVLPEAQIQPTCEETMEAV/SLVDVYAKHWHSDSAGRV/TSATMILLGLLYSCMSLL

>SGP404\_SEQID\_62  
 MVSNDSTHTWTVKNGSGDMIFEGNSEKEIPLVNLPLVPMVARYIRINPQSWFDNGSICMRMEILGCPLDPNNYYHR  
 RNEMTTDDLDKHHNYKEMRLMKVYNEMCPNITRYNIGKSHQGLKYAVEISDPHGEHEVEGEPEFHYIAGAHGNE  
 VLGRELLLLLVQFVCOEYLARNARIVHLVEETRIHVLPSLNPDGYEKAYEGGSELGGWSLGRWTHDGDIDINNFPDLNT  
 LLWEAEDRQNVPRKVPNHYIAPEWFLSENATAAE TRAVIWMKEIPFVLGGNLQGGELVAYPYDLVRSPWKTQEH  
 TPTPDHVRWLAYSASTHRLMTDARRVCHTEDFQKEEGTVNGASWHTVAGSLNDFSYLHTNCFELSIYVGC DK  
 YPHESQLPEEWENNRESLIVFMEOVHRGIKGLVRDSHGKGIPNAISVEGINHDIRTAGNDGYWRLNLPGEYVVTAKAE  
 GFTASTKNCMV/GYDMGATRCDFTL SKTNMARIREIMEKFGKQVP/SLPARRKLGRKRQRG

>SGP536\_1\_SEQID\_63  
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 CNRTVSDCCDFWDFCLGVPPFPFPIQGCMHGGRIYPVLGTYWDCNCRCTCQENQWQCDQPCLVDPDMIKAIN  
 QNGYWGQAGNHSFAWGMTLDEGIYRLGTIRPSSVMNMHEIYTLNPNPGEVLPTAFEAASEKWPNIHEPLDQGNCA  
 GSWAFSTAAVASDRVSIHSLGHMTPVLSQNLSCDTHQQCGCGRGLDGAWWFLRRRGVVS DHCYPFSGRERDE  
 AGPAPCCMMHGRAMGRGKRQATAHCPNSYVNNNDIYQVTPYVRLGSDNKEIMKELMENGVPQALMEVHEDEFLLYK  
 GGIYSHTPVSLGRPERYRRHGTHSVKITGWGEETLPDGRTLKYWYTAANSWGP/AWGERGHFRIVRGVNECDIESFVL  
 GVVGRYGMEDMGHH

FIG. 2A

&gt;SGP414\_SEQID\_64

MCENACDLVEVLNEISDVEGDGLQLRKEHTLKIFTYINSWTQRQKCFKEYKHLEIFNQVVCALINLVIAQVQVLRD  
 QLCKHCTTINIDS TWQDESNAEEPLNIDRECNEGSTERQKSIIEKSNSTRICNL TEESSKSPDFSLWSTDEKEKLL  
 LCVAKIFQIQQPLEYATYKHNTHPTIEDISTQESNILGAFCDMDNDVEVPLHLLRYVCLFCGKNGLSLMKDCOFEGYGTPELPL  
 FLUAHAFITVSNIRULHIPAVMQHIFPRTYVIRYLCKLSQDELQRQSAARNMADLMWSTYKEPLDTLLCFDKESLDLAF  
 GRLSTQHIDCWAQAQLKHCSTRYIHDLPFSLIKNLDPVLRHLLNLVSALESVHTEQTLYLASMLIKALWNAALAAKAQ  
 LSKQSFASLLNTNIPIGNKEEELRRTAPSPWSPAASPQSSDNSDTHQSGGSDIEMDEQLNRTKHVQQRSLSTEE  
 SMQGSSTDANSQDGGSGFGSSGSHSGSSNEVNSHASQSGSPGSEVOSEDIADEALKEEEDDDHGHNP  
 KSSCGTDLNRNKLSSOAGICLGDQSGTSENGTSSGTGKDLVNTESLPSVDNMRMLDACSHSDPEHDIQSEMN  
 ATHIAQGSQESCITRTGDFLGETIGNELFNCRQFQHHHHHHHHHHHDMVDDMLSADDVSCSSSQVSQSAKSEK  
 NMADFGEESGCEELVQINSHAE LSHLQQHLPLNLSIYHEHL SQGPVYHKHQFNSNAVTDINLDNVCKKGNLLW  
 DIVODEAVNLSEGLINEAEKLLCSLVOWFTDRQIRMRHIEGCLNENGNRSWISLRLLPKLFGTFQFGSSYDTHWT  
 MWAEKELNMKMLFFDNLVYIQTVREGQKHALYSHSAEVQVRLQFLTCTVFTLGSPPDFRLSEQVDILWHCLVED  
 SECYDDALHWFNLNVRSKDQHAMGEMETKHLFLEKMPQLKPTISM TGLNLFQHLNCLARLATSAYDGCNSSELG  
 MDQFWGIALRAQSGDVSRAAIQIYNSYINGKTGLEKEQEFISKCMESLMIASSLEQESHSLMVIERGMLMLKTHLE  
 AFRRRFAYHLRQWQJEGTGISHLKALSDKQSLRVCQAPAGLPDKMTIEMYPDQVADLRAEVT HWYENLKEQI  
 NQQAQLQEFQGNRKGEPPGGLMGPVRMISSGHELTTDYDEKALHELGFKDMQMVFSLGAPRRERKGEVQLPA  
 SCLPPQKDNIPMLLLQEPHLLTLDLLEMLASFQPPSGKVAVDDSESLRCEELHLHAENLRRRVWELMLLPTCPN  
 MLMAFQNSIDQEFKAQSDHRSRHEVSHYSMWLLVSWAHCCSLVKSSLADSLHLDQWLKLLTLLPETAVRHCSCSG  
 LYKLSLGLDGDGINSRFLLLAAS TLLKFLPDAQALKPIRIDYEEEPILKPGCKEYFWLLCKLVNDHIHKDASQTLLDL  
 DALARHLADIRSREILDHQDGNVEDDGLTGLRLATSVVKKHPPKFSREGQEFRLDIFNLLFLLPSLKDQRQPKCKS  
 HSSRAAAYDLLVEMVGNYSYRULHNWMAQHMOSHAPYQDYWPHEDEVRAECRFVGLTNLGATCYLASTIQQLY  
 MIPEARQAVTAKYSEDMMKHKTLLLEQKMTYLMSECEKAYNRPFC KTYMDQKPLNTGEQKDMTEFFTLTIKIE  
 EMSPELKNTVKS LFGGVITNNVSLDCEHVQSATAEEFYTRCQVADMKNIESLDEVTIKDTLEGDNMTTEFFTLTIKIE  
 RAEKRACFKLLPRIXSTMTMYTFNMTMMKEKVNTHSFPLRDMTPYTEDFLMGKSERKEGFEVSDHSKDSSEY  
 ELDGLIGVHTGTADGGHYYSFIRDVNPAYKNNKWYLFNDAEVPKFDQAQASECFGGMETTKTYDSVTDKFMDFS  
 FEKTHSAYMLFYKRMPEEENGREYKFDVSELLEWHDNMQFLQDKNFIEHTYFGFMWQLCSCIPSTLPDPKAVS  
 LMTAKLSTSFVLETFHISKEKPTMLQWIELLTKQFNNSQAACEWFLDRMADDWMPMQLIKPCPNQVRGMQRLCIH  
 VIQRLRPVHAHLYLOPGMEDGSDMDTSDVEDIGGRSCVTRFVRLTLLIMEHGKVPKSHKLT EYFAFLYEFKAMGEEES  
 QFLLSLQAISMTVMGTGKPNQPOVEVLSEEEGEEEEEDILSLAEKYRPAALEKMKIALVALLVEQSRSEHLLT  
 SQTDMAALTGGKGFPLFQHIRDGINIRQTCNLIFSLCRYNNLAEHIVSMILFTSI AKLTPEAANPFKLLTLMLEFAGG

FIG. 2B

PPGMPFFASYLQRIWEVIEVNPSCQLDWLAVQTPRNKLAHSHWVLQNMENWVERFLAHNPVPRVTSAAYLVLVSLPS  
 NSFMDLWNLFRSLHIPTRLPLSPDTTVALHQVNVLLGLSRAKL YVDAAVHGTTKLVPFYSMTYCLISKTEKLMFS  
 TYFMDLWNLFOKPLSEPAIA TNHNKQALLSFWYVNCADQENRILVOQNPVVTKNFAINYLADHDDQDWLFNRMGLP  
 AYYGILRLCCEQSPAFTRQASHQNIQAWFKNLTPHASQPGAVEELNLMQFIAQRPDMREEELDIKQFKTTISC  
 YLRCCLDGRSCWTTLSAFRILLESDEDRLLVFNVRGLIMTESFNTLHMVHEATACHVTDGLVELLSIFLSVLKSTRPY  
 LORKOVKQALIQWQERIEFAHLLTLNYSPPELRNACIDVLKELVLLSPHDFLHTLVFLQHNHC TYHHSNIPMSLGP  
 YFPCRENKILGKSNRPRPELNMCLPTMVETSKGDDVYDRMLLDYFFSYHQFHL CRVAINCEKFTETLVKLVS  
 LVA YEGPLHLALPKLWTEL CQTQSMKNCIKL CEDPFAFYKICILMDERFLNNIVYTFMTHLLKVQSOVSE  
 ANCANLSTLITNLISQYQNLQSDFSNFRVEISKASALNGDLRALALLSVHTPKQLPALIPTLQELLSKCRTOQQRNS  
 LQOEAKERKTKDEGATPIKRRV/SSDEEHTVDSICISMDKTETREVLTPTSTDNETRDSIIDPGTEQDLPSPENSS  
 VKEYRMEVPSSFDEDMNSIRKVAEEQSNNGRYDDCKEFKDLHCXKDSLAESEEFPTSISAVLSDLADLRSCDG  
 QALPSQDPEVALSLSCGHSRGLFSHMQQHDILDLCTRIESTHVVTRISGKGNQAA5

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MSPLKIHGPIRISMQTGITKWKEGSFEIVEKENKVS LVHYNTGGIPRIQFQLSHNKNVLRPSGAKQSRMLTLQDNS  
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 FRKVLGNPGRGSIKTAVAGSGIARTIPSLTSTPLRSGLLENTEKRRKMISTGSELNEDYPKENSSNNKAMTDPSP  
 KYLTSSREKQLSLKQSEENRTSGGLPLQSSSFYGSRAGSKEHSGGTNLDRTNVSSQTPSAKRSILGFLPQVPLSV  
 KKLRCNQDYTGWNKPRVPLSSHQQQQLQGSNLGNTCYMNAILOSLFSLOSFANDLLKQGIPWKKIPLNLRFAHL  
 LVKKDICNSETKDLLKKVKNASATAERFSGYMQNDAHEFLFSQCLDQLKEDMEKLNKTWKTPEVSGEENSPPDSATR  
 AYTCPVITNLFEFGVHSIICKACGEIIPKREQFNDLSIDLPRKKPLPPRSIQDLSLDFRRAEELEYSCCKGKCALVRH  
 KFNRLPRVLLHLKRYSFNVALSLNNKIGQVPIPRYLTLSSHCTENTKPPFTLGWSAHMAMSRPLKASQMVNSCITPS  
 TPSKFTFKSKSSSLALCLDSDSEDELKRSVALSQRCELMGNEQQQEDLEKDSKLCPIEPDKSELENSGDFRMSEEL  
 LAALVEISKRDASPSLSHEDDDKPTSSPDTGFAEDDIQEMPENPTMETEKPTITELDPASFTETIKDCDENKENKTP  
 EGSQGEVDWLQQYDMEREEELQQAALQSLQOEAWQEKDDDLKRATELSLQEFNNSFVDALGSDEDSGNE  
 DVFDMETEAEEELKRNAETGNLPHSVLSVSHIGSTSSSGHYISDVYDIKKQAWFTYNDLEVSQIOEAAVQSDRD  
 RSGYIFYMHKEIFDELLETEKNSQSLSTEVGKTRQAS

>SGP496\_1\_SEQID\_66

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 FNNDGVCCLQKRGPNVITSVCVSPRTLQISFVLSEKYEGIVKFESDELPGFVGSNIGDAHFQEFRAGISMKPVPDP  
 DDPIQPFDDCCSSSSSRIPSVSVLVAVPLVAGHKQAFIERMLGCKFELKQELTQEGPGGPHPSAWIPRRHAQWP

FIG. 2C

FIG. 2D

PEPOCQGEPPPPVEAEVEEAETAEAKERKVEAEAKVEGKAEAAAGKAEAAAGKVDA TEKVETAGKVDAAGKVETAEG  
PGRRAELKLEPEPPREAEQPKQELDENAPRSGGGNSDEVPPPTLPDPPRPDPSPRSPRSPRSPRPPRPQ  
TLRLTPQRPPEPPRPBRPPRGCGGLDFAVGPPGCSHVNSFKVGNWRQELRYVQFCWCGTPETRKSKA  
KSCICHVCGTHLNRHSLCSLVCFFGQTEKHIHEHAETQHNLAVDLYGNGYFCMCKQVYVDQIEQIAKEEGEAL  
LQASTSTRSEVHQCSQGLGKFPFTWETLPELLELGHNPRRRITSFTIGRLGLNLGNTCFMNCVQALHTHTPIRL  
LFDSDIRHCEMPSCPLVCEMSSELFRELYSGNPSPYKYLHLVWIHARHLAGYRQDQDAHEFLAALDVLHRHCKG  
DDVGKAANNPNHNCIDIFTGGLQSDVTCQACHGVSTTIDPCWDILGSGTCSFWPMSPGRESSVNLGESHIPGI  
ATTLTDLCLRRFTREHLGSSAKIKGSCQSQQUESTQLTMNKLPPVACFHFKRFEHSAKORRKITYISFPELMDITPM  
ASSKESRMNGQLPLPTNSNGENNYSLFAVNHQGTLESGHYTFSIRHHKQDWFKGDDAVITKASIKOVLDSGYLLF  
YHKQVLEHSESKQVKEMNTQAY

>SGPr495 SEQID 67

MRVKDP7TKALPEKAKRSKRP7VPHIDEDSDDIAGVLTQCHVSHAISVNHVKRAIENLWSVCSECLERRFFYDGLVL  
TSDIWLCLKCGFCGCKNSESQHSLKHKFSRSTRPETHCIINLSTWIIWCYEDCKLSTHCNKKVLAQIVDFLQKHASKT  
QTSFAFRIMKLCEEKQEDIEQIQGKCRNL SVRGITNLGTCFFNAVMONLAQTYTLTDLMEIKESSTKLKIFPSSDS  
QLQDPLVVELSRPGPLTSALFLHSMKTEKGPLSPKVLFNQLCQKAPRFKQDQDQSDHLLHYLDVARTETETKRIQ  
ASILKAFNPP7TKTADDETRKKVVKISTVKDFIDISLPIIEERVSKPLLWGRMNKYRSLRETDHHRVSGNVTIENIHPRA  
AKKPHSSSKDQSLJHDKCRJLSSGSETVYQKNENLWNGDSLMFASLMNSERLNESTPTDDSEKASHSESNDPA  
SESESESASQKOTGLFRSSSGSGVDPDGLYPLSAGKLYTKETDSDGKEMAEAISLRLSTVTGDDQDFDRENGQP  
NINNLNCFLEGHLRSYSPQNAFQTLQSQYFTLSQYTSKESQISQLYQFTSMELLAPGNKLLCENCTKNKQKYQEETSFAE  
KKVEGVYTNARKOLLISAVPAVLILHLKRFHQAGLSLRKVRNHRVDFPLMLWGCATCKNASVGDVKLYGLYGVNEH  
GSGMRREGHYTAYKV/RTSPRKLSEHNTKKKNVPGLKAADSESAGQWVHVSDTYLVQVPESRALSAQYLLFYERVL

>SGPr407 SEQID 68

MEVPYVYFRSPNRITLPIPERWNSPLLVLVIAYKTVSWPRQLLAKQANKWMPFVPSKTLPWDPLELKICYQQNRPYPS  
PDPNSNFTFLRCLNFAVYLPQSPWHKEPLKAGYPRVPDIPYGSYTLKSTTEAAGLHQSPLWVQLPLHPHTKG  
SALLIKESLNDNANMMWVKYLEEQEDSKMVDLFGQMKSYLKQACGYKSMFTKFFCFDCLSTIPKKGAGGK  
VSLRDLCSLFTKEEELENASGTLPTVKSEVLTSTCVPGFTQAASVATTPQCAARLVFGTFTMLVSPNLTRDTE  
GIELTKMALVLDLFCASTOIJLHNHDSNGKNWRKLPPEGGLEKHEELRLPKEEYHWWLVPLKLTGSPHRWRP  
RKRALASCWCWLQVTRMRVNVGQDKAGNRNMQLMLGQRPVIGDVTNSNGTTRDKACRPPSHSVFTQSSFWACL  
PDPFLFYGHQSYMMKHLNDILREGVPTQMAQSGFYWFGAGNLSALEMLPDGPAPRTELQKYSCLFLPSYLLH  
KAGKLFQPDAGFLVKVYHAPTRGIVMEPRQLGGKSLQLQACALGGMNSMEPQKSAFFAAGKGLAPPLPVC

FIG. 2E

NLRFKLRYKFEELWSRAGL GKSDNHSRQMPWGAAGVACQHPCKLPRIVAELTPPKLSFGFLNTVQSSVLTSL  
SOFFLNDSPPEAIPPSQLPGSPRTNSFPKDKFVPKDKLVLSLLTMVELDRLF

>SGP453\_SEQID\_69

MLAMDTCKHVGLQQLAQDHSLLNPQKWHCVDCNTTESIWACLSCSHVACGRYIEEHALKHFESSHVPVALENEMY  
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RRILMGKIFRTWFEQSPIGRKKQEPFQEKIVVKREVKKRRQLEYQVKAELSMPPRKSRLQGLAQSTTIEVSVQVP  
AQTASPAKDKVLTSENEISQVSDSSVKKRPVTPGVTGLRNLGNTCYMNSVLQVLSHLLIFRCQFLKLDLQWLA  
MTASEKTRCKHPVTDIVVYQMNCEQKDTGFVCSQSSLSGGSGGASKGRKMLIQPKETSQYISLCHLHTL  
FQVMGSKWALVSPFAMLSVWRILPAFRGAAQDAQEFCLDKIQKQLETTGTSPLAIPTSQRKLKIQVNLNVN  
NIFHGQLSQVTCACONKSNTEPFWDLSLEFFERYCQSGDKIASQCLVTEMLAKFTETEALGKIVCDQCNKRR  
RFSSKPVLTAEQQLMICHLPQVLRHLKFRFRWSGRNRREKIGVHVGFEELNMEPYCCRETLSLRPECFYDLSAV  
VMHHGKFGSGHYTAYCYNSEGGFWHCNDSKLSMCTMDEVCKAQAYILFYTQRVTENGHSGKLLPPELLGSQLPN  
EDADTSSNEILS

>SGP445\_SEQID\_70

MRVKDPTKALPEKAKRSKRPTVPHDESDDDIAVGLTCQHVSHSAISVNHVKRAENLWSVSECLEERRFYDGGQLVL  
TSDIWLCLKGFGCGKNSQSLSLKHFKSSRTEPHCIINLSTWIIWCYECDEKLSHCNKKVLAQIVDFLQKHASKT  
QTSAFSRIMKLCCEKCTEIQKGGKCRNL SVRGITNLGNTCFFNAVQNLAQTYTL TDLMEIKESSTKLKIFPSSDS  
QLDPLVLSRPGPLTSALFLFLHSMKETEKGPLSPKVLFNQLQCKRVHLHLI

>SGP401\_1\_SEQID\_71

MTVRNIAIGNMGITNASALEKDIGPEQPINEHYFGLVNFNGNTCYCNSVLQALYCFRPERENVLAYKAQKQKKENLLTC  
LADLFHSIATQKKKVGIPPKFISRLRKENDLFDNVMQDAHEFLNLYLNTIADILQEEKKQKQKGLKNGNMNEPA  
ENNKPELTWVHEIFQGTLTNETRCLNCETVSSKDEDFLDSDVDEQNTSITHCLRDFSNTETLCEQKYCYCETCCSKQ  
EAOGRMRVKKLPMVLAHLKFRKYMEOQLRRYTKLSYRVAFPLERLFNFTSSDANLDRMYDLVAVVHCGSGPNRGGH  
YITIVKSHGFWLLFDDDIVKIDAQAEIEFYGLTSDISKNSSEGYILFYQSR

>SGP408\_SEQID\_72

MVPGREENQLVPKEAPLDHTSDKSLLDANFEPGKKNFHLTDKDGEQPKILLEDSAGEDSVHDFRIGPLPREGSVGSST  
SDVVSQSYSSYLNNKSETGYGLVNOAMTCYLNSSLQTLFMTPEFRNALKYWEFESEEDPVTSPYQLQLRFLVLLQT  
SKKRIETTDVTRSGWDSSSEAWQQHDVQELCRVMFDALQKWKQTEQADALINELYQGLKDYVRCLCEGEGWRI

DTYLDIPLVIRPYGSSQAQFASVEEALHAFIOPEILDGPNQYFCERCKKKDARKGLRFLHFPYLLTLQLKRFDFDYTTMH  
 RIKLNDRMTFPEELDMSTFIDVEDEKSPQTESCTDSGAENEKSGSDQMSNDFNDDGVDEGICLETNSGTKEKISKS  
 GLEKNSLIYELFSVMAHSGSAGGHYYACIKSFSDQWYFDDQHVSRITQDEIKKTHGGSSGRGYYSFAFASSTNA  
 YMLIYRLKDPARNAKFLVEGYEPIHNLVKQERELEEQRQRIERNCTKIKLCHLPTKQVMMENKLEVHKDKTLK  
 EAVEMKMMDLLEVIPLDCRLVKYDEPHDYLERSYEGEEDTPMGLLGGVKSITYMFDLLLETRKPDQVQFSYKPG  
 EVMKVHVVDLKAESVAAPITRAYLNLQNTYFEFKQISKAHILPAETMRVLERCYNDLRLSVSSKTLKAEGFFRSNKV  
 FVESSETIQMAFADSHLWKLDRHANTIRLVLVPEQSPVSYKRTAYKAGGDSGNVDDDCERVKPGVSGLSKV  
 EALIEESTELKLSLQQQDGDNGDSKSTETSDENIESPLNERDSASVDNRELEHQIHTSDPENFQSEERSDS  
 VNNDRTSSVDSHSDTLCNADNAQIPLANGLDHSITSRRTKANEGKKTWDTAEEDSGTDSEYDESGKS  
 RGEQMYYFKAEPYAADEGSGEGHKWLMVHVDRKRLTAQKHLEFPVGLVSSHFKVFRVYASNOEFESVRLNETL  
 SSFSDNKITIRLGRALKKGEYRVKYVQLLVNEQEPCKFLLDVAFKAGMTVRSKEELIPQLREQCGLELSDIRFLRK  
 KTWKPNGTVFLDYHIYEEDINISSNWEVLEVLGDGVEKMKMSQLAVLSRRWKPSMKLDPFQEVVLESSSVDELREK  
 LSEISGPILDIEFAKGRGTFPCDISVDIHQDLDWNPKVSTLNVWPLYICDDGAVIFYRDKTEELMELTDEQRNELMKK  
 ESSRLQKTGHRVTYSPRKEKALKIYLDGAPNKLTDQ

>SGP480\_SEQID\_73

MGAKESRIGFLSYEEALRRVTDVELKRLKDAFKRTCGLSYMGQHCIFREVLGDGVPPKVAEVIYCSFGGTSKGLHFN  
 NLIVGLVLLTRGKDEEKAKYIFSLFSSSEGNVIREEMERMLHVVDGKVPDTLRLKCFSEGEKYNIEKFNWFLNKDAF  
 TFSRWLLSGGVYVTLTDDSDTPFYQTLAGVTHLESDIIDLEKRYWLLKAQSTRGRFDELTFGPLVSPPIRPSLSEGL  
 FNAFDENRDNHIDFKEISGLSACGRGPLAERQKFCFKVDFVDGVLRSRVELDMVVALLEVWKNDRTTDDIPELHM  
 DLSIDVEGILNAHDTTKMGHLLTLEDYQIWSVKVLANEFENLLFQVCHIVLGLRPAATPEEGQIIRGWLERESRYGLQ  
 GHNWFIISMQWQQWKEVYKDANPVIEFSSVNLGGKYSFGTAAPHMEQVEDRIGSSLSYVNTTEEFSDNIJSTAS  
 EASSETAGSGLYSATPGADVCFARQHNNTSDNNQCILLGANGNILLHNPQKPGADINQPLVTQEPVKATSLTLEGGRL  
 KRTPLQIHGRDYEM/PEPVWIRALYHWYGANLALPRVINKSKTDIPELFPYLLFLRQQPATRTQQSNWVNMGNV  
 PSPNAPLKRVLAYTGCFSRMQTIKEHEYSQRLRIKEEDMRWLNYNENYLLTDDDEHKLEYLKIQDEQHLVIEVRNK  
 DMSVPEEEMSIANSKIDRHVKVPTKEGATGLSNLNTCFMNSSIQCVSNTQPLTQYFISGRHLYELNRTPNPGMKGHM  
 AKCYGDLVOELWSGTQKNVAPLKLRTWIAKYAPRFNGFQQQDSQELAFLLDGLHEDLNRVHEKPYVELKSDGRP  
 DWEVAAEAWDNLRRNSIWDVLHGQLRSQVKCKTCGHISVRFDENFLSLPLMDSYMHLEITVIKLDGTTPTVRYG  
 LRLNMDEKYTLKKQLSDCLGENSEQILAEVHGSNIKIFPDQNKVRLSVSGFLCAFEIPVPSIPASSTPTQDFSS  
 SPSTNMEFTLTNGDLPRPIFIPNGMPTVPCGTEKNFTNGMNGHMPSLDPSPTFTGYIAVHRKMMRTEL YFLSSQ  
 KNRPSLFMPLCTVTRKKDLYDAVWIOVSRLASPLPQEAASHAQDCDDSMGYQYPFTLLRWQKDGNSCAWC  
 PWYRCRGCKIDGEDRAFIGNAYIADWDPTALHLRYQTSQRWDEHESVEQSRRQAEPINLSDCLRAFTSEEL

FIG. 2F

GENEMYCSKCKTHCLATKLDLWRLPPIIHLKRFQVNGRWIKSQKIVKFPRESFDPQAFVLPDPALCOHKPLTP  
 QGDELSEPRILAREVKVDAQSSAGEEDVGLSKSPSSLSANIISPFGSPSSSRKSGTSCPSSKNSSPNSSPRTLGRS  
 KGRRLPLQNGSKNKLSSKENLDAKENGAGQICELADALSRGHVLGGSPQLVTPQDHEVALANGFLYEHEACGNG  
 YSNGQLGNHSEEDSIDDQREDTRKPIYNLYAISCHSGILGGHYVYAKNPCKWYCYNDSSCKELHPDEIDTDSAY  
 ILFVEQQGIDYAOFLPKTDGKKMADTSSMDEDFESDYKKYCVLQ

>SGPr431\_SEQID\_74

MDKILEGLVSSSHPLPLKRVIVRVKVESAEHWLDEAQCEAMFDLTTLRILEGGQDPQROVGHQVLEAYARYHRPEFES  
 FFNKTVLGLLDHOGYSLDRKDVAILDYIHGKLIMSCPVLDFLSLQVEVLRMVCERPEQLCARLSDLLTDFVQCI  
 PKGKLSITFCQQLVRTIGHFCQVSTQERELREYVSQVTKVSNLLQNIWKAEPATLLPSLQEVFASISSTDAASFPSVALA  
 SLVQHPLQMITVLIIRSLITDPNVKADASMTQALCRMIDWLSWPLAQHVDTWVIALLKGLAAVQKFTLIDVTLTKIELVFN  
 RLWFLVRPGALAVLSHMLLSFQHSPEAFHLVPHVNVLVHFSKNDGLPSSAFLVQLTELIHCMMYHYSGFPDLYEPI  
 LEAKDPKPSSEKIKLILNQSAAVTSQSNLSASCLSRISGKSETGKTGLNLTGNTCYMNSVIOALFMATDFRRQVLSNL  
 NGCNLSMKKLQHLFAHTQREAYAPRIFFEASRPWFTPRSQQDCSEYLRFLDLRHEEEKILKVQASHKPSLELEC  
 SETSLQEVASKAAVLTETPRSTDGEKTLIEKMFGGKLRTHIRCLNCRSTSQKVEAFTDLSLAFCPSSLENMNSVQDPAS  
 SPISQDGLMIAQSVPGPSEEPVYVNPITTAFCIDSLVNEKTIIGSPNFEYCSENTSVPNESKILVNKDVPQKPGGET  
 TSPVTDLLNYFLAPEILTGDNQYYCENCASLQNAEKTMQITEEPYLLTLRFSYDQKYHVRKILDNVSLPLVLELPVK  
 RITSFSLSESWSVDVDFDLSENLAKKLPKSGTDEASCTKLVPYLLSSVWVHSGISSESGHYYSYARNITSTDSYQM  
 YHQSEALALASSQSHLLGRDSPSAVFEQDLNEMKSEWFLNDSRVTFTSFQSVQKITSRFPKDTAYVLLYKKQHS  
 NGLSGNNPTSGLWINGDPPLQKELMIDAITKDNKYLQEQELNARARALQAAASCSFRPNFGDDNDPPGSCGPTGG  
 GGGGGFNTVGRLVF

>SGPr429\_SEQID\_75

MAPRLQLEKAAWRWAEVTRPEEVSQEHETAYRIMLEPCIRGVCRNRCKGNPNCLVIGIEHIWLGEIDENSFHNDDP  
 NCERRKNSFVGLTNLGATCYVNTFLQWFLNLELRQALYCPSTCSDYMLGDGQEEKDYEPOTICEHLQYLFALLQ  
 NSNRYPIDPSGFVKALGLDTGQQQDAQEFKLSMLEDLTLSKOKNPVDRNVQQQFCGEYAYVTVNCQCGRESKLL  
 SKFYELNIQGHKQLTDCISEFLKEELGDNRYFCENCOSQKNAKTRKIRLLSLPCTNLQLMRFEVDROTGHKKLN  
 TYIGFSEILDMEPYVEHKGGSYVELSAVLHHRGVSAVSHYAHVADKDPQSGEWYKFNDEIEKMEGKKLQLEEDLE  
 PKSQSQRKPKCGKGTCHCSRNAYMLVYRLQTQEKPNITTVQVPAFLQELVDRNKSFEWCIEAMRKOSVDKGA  
 HEEVKELYRLPAGAEPYEFVLEWLQKMLDESPTPKPIDNHACLCSHDKLHPDKISIMKRISYAADIFYSRYGGGPR  
 LTVKALCKEVCVERCIRLRLKNQLEDYKTVNNLLKAAVKGDFWVGKSSLRWSRQLALEQLDEQDGAQESNGKM  
 NGSTLNKDESKEERKEEELNFNEDILCPHGELCISENERRLVSEAWSKLQYFPKAPPEPSYKECCSCKILERE

FIG. 2G



FIG. 2H

EENEALHKMIANEQKTSPLNFQDKNRPCLSNWPEDTDLYIVSQFFVEEWRKFKVTRCSPVSSVSGNSALLCPHG  
GLMFTFASMTKEDSKLIALWPSEWQMIOQLFVVDHVKITRIEVDVNPSETQYISEPKLCPECREGLLCQQQRDLREY  
TQATYVRHKVVDNKKVMKDSAPELNVSSETEEDKEAKPDGKDPDNQSGGTRKOKISHQNIAYOKQVIRRS  
RHRKVRGKALLVSANQTLKELKIQMHAFSVAPFDQNLSDGKILSDDCATLGLTVIPESVILLKADEPIADYAAAMDVV  
MQVCMPEEGFKGTGLLGH

>SGP503\_SEQID\_76

MLSSRAEAAMTAADRAIQRLRTGAAYRYKVMKNWVGIGIAAALAGIYVIWGPITERKKRRKGLVPLGNLGNCTCF  
MNSLLQGLSACPAIRWLEEFTSQYSRQDQKEPSSHQYLSLTLHLKALSCQEVTDDEVLDASCLLDVLRMYRWQISS  
FEEQDAHELHVITSSLEDRQRPVTHLFDVHLEQQSEITPKQITCRTRGSPHPTSNNHWSQHPEFHGRLTSNMV  
CKHCEHQSVPVDFDTEDSLJSLSIPAAATVGHPLTLDHCLHFFISESVRDVVCNDCTKIEAKGTLNGEKVEHQRTTFVVKQ  
LKLGLPQCLCHLQRLSWSSHGTPLKRHEHVQFNEFLMMDIYKYHLLGHKPSQHNPKNLKNPGTLELQDGPAPT  
PVLNPGAPKTIQFMNGACSPSLPRTL SAPMPFLPVVPDYSSTYLFRLMAVWHHGDHMHSGHFVYTRRSPPSARN  
PLTSTNQWLWVSDDTVRKASLQEVLSSSAYLLFYERVLSRMQHQSQECKSEE

>SGP427\_SEQID\_77

MDLGPDAAGGGPLAPRRRRRLRLSRFLALGSRSRPGDSPRPQPGHCDGDEGGFACAPGPVPAAPGSP  
GEERPQGPQQLPAGDGARPPGAQGLKNHGNTCFMNAVQCISNTDALLAEFLALGRYRAAPGRAEVTQEQLAALV  
RALWTREYTPQLSAEFKNAVSKYGSQFQGNQSHDALEFLWLLDRVHEDLEGSSRPVSEKLPPEATKTSENCLSPS  
AQLPLGQSFVQSHFQAQYRSSLTCHCLKQSNITDFPLCVSLPIPLRTRFLSVTLVFPSSQRFRLVGLAVPLSTVA  
ALRKMVAEEGGVPADEVILVELYPSGQRFSEEDINTIAEGDNYAFQVPPSPSQGTL SAHPLGLSASPRLAAREG  
QRFLSLHSESKVILFCNLVSGGQQAARFGPPFLUREDRAVSWAQQLSQSILSKVRHLMKSEAPQNLGSLFSRVVGL  
SVACSYLSPKDSRPLCHWADVRLHLRPPGGPHVKLAWEVDSSVKERLFGSLQEEAADADSVWQQQQAHHQ  
SCTLDECFQFYKEEQLAQDDAMWKCPHCQVLQQGMVKLSLWTL PDILIHLCRFQCVGERRNKLSLTKFPLSGLNMA  
PHVADQRTSPFAGLGPWSPWKOPDCLPTSYPDLFDLYLAVCNHHGNLGGHYTAYCRNSLDGGWYSYDDSTVEP  
LREDEWTRGAYILFYQKRNSIPWSSASSMRGSTSSLSHDWLLRLGSHAGSTRGSLLSWSSAPCPSLPQVPDSPIF  
TNSLCNKEKGGLLEPRLVRGKGRSISMKAPTTSRAKQGFKTMPLRWVSGSEKPKPGASVELVEYLESRRRPRST  
SQSVSLLTGTAGDEKASPRSNVALPANSEDDGGRAIERGPAGVPCPSAQPNHCLAPGNSDGNPTARKLKENAGQD  
IKLPRKFDLPLTVMPSVEHEKPARPEGQKAMNWKESFQMGSKSPSPYMGFSKSDSRRGTSSELDRLQGLTL  
LRSVFRKKENRRNERAEVSPQVPVSVLVSGLSPAMDGAQPSPPALRIPEGLARGLSRLERDVMWSAPSSLRLPR  
KASRAPRGSALGMSORTVPGEQASVGTQRVKYHTLSLGRKKTLPESF

FIG. 21

>SGP092\_SEQID\_78  
 MQLVILRVITELPWCFAVPVPAADHKGWDFVEGYFHQFFLTTKKESPLLTQETQTQLLQQFHRNGTDLDDMQMHALL  
 HQPHCGVPDGSSTISIPGRCKWNKHTLTIRINYPHDMKPSAVKDSYNVSWNVTLFQQVQNGDADIKVSFWQ  
 WAHEDGWPFDPGGILGHAFPNSGNPGVWFHDKNEHWSADTGYNLFVLA THEIGHSLGLQHSNGOSSIMYPTYW  
 YHDPRTFQLSADDIIRIQHLYGEKCSSDIP

>SGP359\_SEQID\_79  
 MKVLPAAGLAVFLMALKFSTAAPSLVAASPRTRWRNNYRLAQAYLDKYNTNKEGHQIGEMVARGSNMIRKIKELQAF  
 FGLQVTGKLDQTTMNVKKPRCGVPDVAANYRFLPGEPEKWKKNLTLYRISKYTPSMSSVEVDKAVEMALQAWSSAVPL  
 SFVRNSGADIMISFENGHDGDSYFPDGPGRGTLAHAFAPGEGGLDTHFDNPEKWTMTGNTGNLFTVAHEFGHAL  
 GLAHSSTDPSALMYPTYKYKNPYGPHLKDQDVKGIALYGPRLFLGKPTLPHAPHHKPSIDPLCDSSSFDAVITMLGK  
 ELLFLKDRIFWRQVHLRTGIRPSTITSSFPQLMSNVDAAYEVAERGTAYFFKGPHYWTRGFQMGQPPRTIYDFGP  
 RHV/QQIDAAYLYLREPQKTLFFVGDEYYSYDERKRMKEDYPKNTEEEFSGVNGQIDAAVELNGYIYFFSGPKTYKYDT  
 EKEDVVSVVKSSSWIGC

>SGP104\_1\_SEQID\_80  
 MNVALQELGAGSNMVEYKRATLRDEDAPETPVEGGASPDAMEVGFQKGTROLLGSRTOLELVL AGASLLLAALLGC  
 LVALGVQYHRDPSHSTCLTEACIRVAGKILESIDRGVSPCEDFYQSCGGWIRRNPLPDGRSRWNITFNSLWDQNAI  
 LKHLENTTFNSSEAEQKTQRYFLSCLQVERIEELGAQLPLDIEKIGGNITGPWDQDNFMEVLKAVAGTYRATPFF  
 TVYISADSKNSNVIQVDOSGLFLPSRDYLLNRTANEKVL TAYLDYMEELGMILLGRPTSTREQMQQVLELEQLANI  
 TVPQDRRDEEKYHKMISELQALAPSMWLEFLSFLSPLSDSEPVVYVGM DYLQQVSELINRTEPSILNNYLW  
 NLVQKTTSSLDRRFESAQEKLLETLYGTTKSCVPRWQTCISNTDDALGFALGSLFVKA TFDQRSKEAEGMISEIRTA  
 EEALGQLVMDEKTRQAAKADAYDMIGFPDFILEPKELDDVYDGYEISEDFFQNM LNL YNFSAKMADQLRKPP  
 SRDQWSMTPTVNAAYLPTKNEIVFPAGILQAPFYARNHPKALNFGGIGVWGMHELTHAFDDQGREYDKEGNLRPW  
 WQNESLAAFRNHTACMEEQYNQYQVNGERLNGRQTLGENIADNGLKAAYNAYKAWLRKHGEEQQLPAVGLTNHQ  
 LFFVGFAQWVCVSRTPESSHEGLVTDPHSPARFRVLGTLSNSRDLRHFHFGCPVGS PMNPGQLCEVW

>SGP303\_SEQID\_81  
 MPEKRPFERLPADVSPINCSSLCKPDLDDTFEGKLEAAQVROATNQVMNCADIIITAS YAPEGDEEIHATGFNYQN  
 EDEKVLSPSTLQTGTGTLKIDFVGELNDKMGFYRSKYTTTPSGEVRYAAVTQFEATDARAFPCWDERAIKATFDIS  
 LVVPKORVALSNMNVDRKPYVDENLVEVKFARTPVSTLYLAVFVGEYFVETRSKDGVCVYTPVGKAEQGF  
 ALEVAAKTLPFYNDYFNVPYLPKIDLIAADFAAGAMENWDLYTYRETALLDPKNSCSSSSRQWVALVVGHELAHQWF

FIG. 2J

GNLVTMEWWTHLWLNEGFAWIEYLVDVHCFFEYDIWTQFVSADYTRAQELDALDNSHPIEVSVGHPSEVDEIFDAIS  
YSGASVIRMLHDYIGDKVKKTLSTI

>SGP402\_1\_SEQID\_82

MRPAPIALWLRVLALALVRPRAVGWAPRAPIYVSSWAVQVSGQNEVERLARKEFGFVNLGPIFPDGGYFHLRHRRG  
VWQSLTPHWGHHHLHKKPKVQWFQQQLTQRRVKRSVWPTDPWFSKWYMINSEAPDLISLQAWSQGLSGGGI  
VSVLDDGDIDHPDLWANDPLASDFNDYDPDPQRYTPSKENRHRGRCAGEVAAMANNFGCGVGFANRIGG  
VRMLDGTGDVIEAQSLQPOHHIYASWGPEDDGRVTDGPGILTREAFFRRVTKGRGGGLTFHWSAGNGGLHYD  
NONGCYTNSHTLSVSGTQQGRVPWYSEACASTITTYSSGAVTDPQIVTDLHHGTDQHTGLWSASAPLAAGMI  
ALALEANPFLTWDRMQHLVVRASKPAHLQAEWDRTNGVGRQVSHHYGYGLLDAGLLVDTARTWLPTQPRKCAVR  
VQSRPTPLPIYIRENVSACAGLHNSIRSLHVAQQLTLSYSRRGDLLEISLTPMGTSTRSLVAIRPLDVSTEGYNNWVF  
MSTHFWDENPQGVWTLGLENKGYFNTGTLRYTYLLYGTAEEDMTARPTGPQVTSACVQRDTEGLCQACDGPAYI  
LGQLCLAYCPFRFNHTRLVTAGPGHTAAPALRVCSCHASCYTCRGSPPRCDTSCPPSSSTLDQQQSGCMGPTTPD  
SRPRLRAAACPHHRCPPASAMVLSLLAVTLGGPVLGMSMDLPLYAWLSRARATPTKQVWMLPAGT

>SGP434\_SEQID\_83

GPGRQGGCGRRTALPLRAPLRARRPGRSERMGAATCRGSRIPSPVQGERSAPRFGVTSLSLWPADFKNW  
RIAGSRQEVALAGEPADQQQTHLRLPYRQTLGYKEDTTNPVCGEPWWSEDEMTTRHWPEVSLRMENEHVCGG  
ALIDPSWVTAACHCSQGTKEYSVWLGTSKLQPMNFSRALWVPRDIIMHPKYWGAFIMGDVALVHLQTPVTFSEYV  
QPICLPEPNFNLKVGTCQCWWTGWSQVKQRFSGSTANSMLTPELQEAEIFMDNKRCDRHYKKXFFFPVPLVLGDMI  
CATNYGENLCYGDGSGGPLACEVEGRWILAGVLSWEKACVKAQNPVGYTRITKYTKWIKKQMSNGAFSGPCASACLLF  
LCWPLQPQMGs

>SGP446\_1\_SEQID\_84

ILTPVCGRTPLRVGGVDAEEGRWPWQVSVRTKGRHICGGTLVTATWLTAGHCISRRFHSYVKMGDRSVYNNETS  
VWSQRAFVHPKFSVTITRNDLALLQLQHPVNFTSNIQIPQENFQVGRTRCWWTGWGKTPERGEKLAISELODV  
DQYIMCYEECNKIQIKALSSTKDVIKGMVCGYKEQKQSCQGDGSGGRACEYNDTWVQVGVSWGIGCGR

>SGP447\_SEQID\_85

MGARGALLALLARAGLGRPEACGHRHIALVAGGVESARGRWPWQASRLRRRRCGSGLLSRRWLSAAHCF  
QKHYYPSEWTVQLGELTSRPTPNLRYSSRYKVQDIIVNPDALGVLNRNDIALLRLASSVYTNAYIQPICIESSTNFVH

RPDCWWTGWLISPSGTPLPPYNI REAQVTILNTRCNYLFEQPSRSSRMIWDSMFCAGAEDEGSVDTCCKGDSGGPL  
VCDKDGWLQYQVGVSWGMDCGQPNRPVYTNISVYFHWIRRVMSHSTPRPNPNSQLLLLLLALLWAP

>SGP432\_1\_SEQID\_86

MGS TWGSPGWRLALCLTGLVLSYALHVKAAARDRDYRALCDVGTASCVRVFSRWGRGFGVLEHVLGQDSIL  
NQNSIFGCFYTLQLLLGLAAQRACGQRPQEGNTPVGEWPMQASVRRQGAHICSGSLVADTWLTAAH  
CFEKAATELNSWSVLSLQREGISPGAEVGVAAQLPRAVYHSGSGLALLQLAHPHTHTPLCLPQPAHRFPF  
GASCWATGWDDTSDAPGTLRNLRLISRPTCNCYNQLHQHRLSNPAPRGMCGGPQGVQCGQDSGGPVL  
CLEPDGHWQAGHISFASCAQEDAPVLLTNTAAHSSWLQARVQGAFLAQSPETPEMSDEDCVACGSLRTAGPQ  
AGAPSPWPWEARLMHQQLACGGALVSEAVLTAACHFGRQAPEEWSVGLGTRPEEWGLKQLIHGAYTHPEGG  
YDMALLAQPVTLGASLRPLCLPYDHLDPDGERGWLGRARPGAGISSLQTPVVTLLGPRACSRLLHAAPGGDGP  
LPGMWCTSAVGELPSCGELSGAPLVHEVRGTWFLAGLHSHFGDACQGPAPAVFTALPAYEDWVSSLDWQVYFAEEP  
EPEAEPGSCLANISQPTSC

>SGP429\_SEQID\_87

MRAPHLHL SAAGARALAKLLPLMAQLWAAEAALLPQNDRLDPEAYGAPCARGSQWQVSLFNGLSFHCAGVLV  
DQSWLTAACHGNKPLWARVGGDHLILLQGEQLRRTTRSVVHPKYHQSGPILPRRTDEHDLMLLKLARPVVPGR  
VRALQLPYRCAQPGDQCQVAGWGTAAARRVKNYKGLTCSSITILSPKECEVFYGPVVTNNMICAGLDRGQDPCQSD  
SGGPLVCDTELQGLSWGVYPCGSAQHPAVYTQICKYMSWINKVIRS

>SGP428\_1\_SEQID\_88

NVQCGHRPAPFNSSWLPFHERLQVNGECPWQVSIQMSRKHLCGGSILHWWVLTAACHFRRTLLDMAVNVTV  
MGRTFSNHSERKQVQVHIHKYKPPQLSDLSLLATPVQFSNFKMPVCLQEEERTWDWCWMAQWVTTNGYD  
QYDDLNMHLEKLRVVQISRKECAKRVNQLSRNMICAWNEPGTNGQGPGEVGGPLVCQKKNKSTWYQLGISWGVGC  
GQKNMPGVYTELSNYLLWIERKTVLAGKPYKYEPPDSVYALLSPWAILLYFVMLLLS

>SGP425\_SEQID\_89

MENMLLWLIFFTPGWTLDGSEMEWDFMWHLRKVRIVSERTFHLTSPAFAEADAKMMVNTVCGIECQKELPTPSLSEL  
EDYLSYETVFENGTRTLTRVKVQDLVLEPTQNTTKGVSVRRKRQVYGTDSRFSILDKRFLTNFPFSTAVKSLSTGCSGIL  
ISQPHVLTAAHCHVDKDYKGSKLRVGLLKMNRKSGGKRRSGKRSRREASGGDQREGTREHLPERAKGGRRR  
KKSGRGQVIAEGRPSQWTRVKNTHIPKGWARGGMGDALTLDYDYLLELKRHHKKYVMELGISPTIKKMPGGMIHFS

FIG. 2K

FIG. 2L

GFDNDRADQLVYRFCSVSDENDLLYQYCDAESGSTGSGVYRLRKDPDKKNWKRKIIAVYSGHQWVDVHGVQKDYN  
VAVRITPLKYAQICLWIHGNDANCAYG

>SGP548\_SEQID\_90

MGPDEGSAEWGKGIPVYVRRNLLTVDGISLCLEGSWWRQKGPASPGEFSHSLPRLQPNPGPSTMWLLTLISFLA  
STAAQDGKLEGGDECAPHQSPWQVALYERGFNCASLISPHWLSAAHCQSRMRVRLGEHNLKRKRDGPEQLR  
TTSRVIPHYEARSHRNDIMLLRLVQPARLNQVRPAVLPTRCPHGEACVYSGWGLVSHNEPGTAGSPRSQVSLP  
DTLHCANISISDTSCKSYPGRLTNTMVCAGAEGRGAESCEGSGGPLVCGGILQGVSWGDVPCDNTTKPGVYTKV  
CHYLEWIRETMKRN

>SGP396\_SEQID\_91

MGPAGCAFTLLLLGISVCQPVYSSRVGGQDAAGRWPQVQVSLHFDHNFICGGSLSERLILTAHCIQPTWTTFS  
YTVMLGSITVGDSTRKRVKYYVSKIYHPKYQDTTADVALLKSSQVTFTSAILPICLPSTVTKQAIPFCWVTGWGKVKE  
SSDRDYHSALQEAEPIDRQACEQLYNPIGIFLPALEPVIKEDKICAGDTQNMKDSCKGDSGGPLSCHIDGVWQGTGV  
VSWGLECGKSLPGVYTNVIYQKWINATISRANLLDFSDFLPVILLALLRPSCAFGPNTIHRVGTVAEAVACIQGWE  
ENAWRFSPRGR

>SGP426\_SEQID\_92

MMYAPVEFSEAEFSRAEYQKQFQWDSVRLALFTLAIAGIAGIVTHFVVEDDKSFYLLASFKVTNIKYKENYGISS  
REFIERSHQIERMMSRIFRHSVGGFRFKSHVYKLSPEQGVDLIVLIFRYPSTDSAEQIKKIEKALYQSLKTKQLSLTIN  
KPSRLTRCGIRMTSSNMPLPASSSTQRIVQGRETAGMEGWPMQASLQJGSGHQCGASLSINTWLLTAHCFWKNK  
DPTQWIAJTFGATITTPAVKRNVRKIILHENYHRETNENDIALVQLSTGVESNIVQRVCLPDSIKLPPKTSVFTFGSI  
VDDGPQNTLRQARVETISIDVQCNRKDVYDGLITPGMLCAGFMEGKIDACKGDSGGPLVYDNHDIWYIVGVSWGQSC  
ALPKKPGVYTRVTKYRDWIASKTGM

>SGP552\_SEQID\_93

RIAEGLDAEEGEWPWQASLPQNNVYRRGATWLSNSWLITAAHCFIRVHDPKEWNVILSNPQTQSNKKNVIQENYHY  
AHNDIAVWHLSSPVLTSNIQACLPDNYIFLYNSEAVTAWGSKPLRTITSNVLHGKLVKIDNRTCNNGEADGRVI  
TSGMLCAGFLEPRVDACQDGGSGGPLVGTDSKILAKGSLVLKAGVNERALPNKPSVYTVQVTVY

FIG. 2M

>SGP405\_SEQID\_94  
 MYSGGVAAEPPEPHYCEDSERGPNLTGTGSLPRGGGIEVGMEEFPGCSGEGCVKPHEEAAREGAGRGKRAVPQPK  
 RRQGSAGPAAGWTLEOTRGDVLKEDKNERADEEILRLAPGKRLPIDSKHLKPVISFPVRSQELGEGAGAGTLR  
 GKMAEFNWSMAFKGPAAGHEERLNSRAKKGIGWDVAASLRGVDFSDLPPPLQVREELEACAFRVQVQGLRL  
 YEDDQRTKVVVEVRHPQVNESLSAQGGADIALKLEAPVLSLHPVSLPSASLDVPSGKTCWWTGWGIGRGELL  
 WPLSLWEATVKNRSNVLNQTCCRFPNSHTERFERLIKDDMLCAGDGNHGSWPGDNGGPLLCCRNCTWVQVEV  
 SWGKLCGLRGYPMYTRVTSYVSWIRQPCPSAQTPAVRRVFLPNPDEVALTPSMGSGAPLPPAPDLQEAEP  
 MRTRACERMYHKGPTAHGQVTLIAAMPKAGRGQSGSCQAALRTEDLTPTTNTVEVSPRADPRLSQPEDIWPEWAW  
 PVAWGTMILLLLFLAVSSLGSCSTGSPAPVENDLVGIVGGHNTPEGVVAGDRRSLHFPEGRHPVHLPDSSHQ  
 CUSVRPGAAECQDRPPNYSVFLGADIALKLATSSLEFTSDNCWNTGWGMVGLLMDLPPYRPQQVKVLT  
 SNADCCERTYDAFPAGAGDRKFQDDMICAGRTGRRTWKGDGGLVCKKGTWLQAGVSWGFGYSDRPSIGVYTR  
 PETSWGANHADAQRPAGRVPTMQPRDMGGQEWVCRPFTHTVTCYPTAIRPFTHTVTCYLMVAVPSTLTHVTCYP  
 TAVPRPFTHTVTCYLMVAVPSTLTHITCYMMVAVPRPFTHTITCYPMVAVPSTLTHVTCYPTAIRPFTHTITCYTMAIPRPSTTP  
 PATRRSPAPSPSPATRWPSPGSPSPSPATR

>SGP485\_1\_SEQID\_95  
 MILLFSVLLLSLVTRTQLGPRTPLEAGVAILGRARGAHRPQPPHPPSPVSECGDRSIFEGRTYSRITGGMEAEVGE  
 FPWQVSIQVRSEFPCCGSLNKNWILTAACHLYSEELFPEELSVLGTNDLTSPSMEIKEVASIILHKDFKRANMDNDIA  
 LLLLASPIKLDLKVPCICLPTQPGATWRECWWAGWGQTNAAADKNSVKTDLMKAPMIMDWEECSKMFPKLTKNMLC  
 AGYKNESYDACKGDSGGLVCTPEPGEKWWQVGIISWGKSGCKENKTGYTSLVNYNLWIEKVTQLEGRPFNAEKRR  
 TSVKQKPMGSPVSGVPEPGSPRSWLLCPLSHVLFRAILY

>SGP634\_SEQID\_96  
 MASLWLLSCFSLVGAAPGCGVPAIHPVLSGLSRVNGEDAVPGSWPWQVSLQDKTGFHFCGGLSIEDWVWVTAACH  
 GVRTSDVWVAGEFDQGSDEENIQVLKIAKVFKNPKFSILTVNNDITLLKLA TPARFSQTVSAVCLPSADDDFPAGTLCAT  
 TGWGKTYKNANKTPDKLQQAALPLLSNAECKSWGRRITDVMICAGASGVSSCMGDSGGPLVCQKDGAWTLVGVS  
 WGSRTCSTTTPAYARVTKLIPWVQKLAAN

>SGP390\_SEQID\_97  
 MEPTVADVHLVPRRTKEVPALDAACCRAS(GVWATSLVLTGLVLLGGMNNRHAALRAATLPKGVSVTPPEASKTT  
 NPPEGRNSEHRTSARTNSGHTIFKCKNTQPLSTQGFHVDHTAELRGIRWTSLSRRETSDYHRTLTPTEALLHFLLR

FIG. 2N

PLQTLSLGLEELLQGRIRARLREHGISLAAYGTIVSAELTGRHKGLAERDFKSGRCPGNSFCGNSQCQVTKVNPCEC  
 DQDCDECHCEAHCEGLQPAWRMAGRIVGGMEASPGPEFPWQASIRENKEHFCEGAIAINARWLVSAAHCFNEFQ  
 DPTKWVAYVGATYLSGSEASTVAQVQVIVKHPLYNADTADFVAVLELTSPLPFGRHIQVCLPAATHIFFPSKCLLIS  
 GWGYLKEDFRKHLPRPAMVKEVLQKATVELLDQALCASLYGHSLTDRMVCAGYLDGKVDSCQGGGGLVCEEPS  
 GRFFLAGIVSWGIGCAEARPGVYVAVTRLRDWILEATTKASMLAPTMAPAPASTAWPTSPESPVVSTPTKSMQ  
 ALSTVPLDWTVTPKLECCGARPAMEKPTRVVGGFGAASGVEPWQVSLKEGSRHFCGATVWDRWLSSAAHCFNHT  
 KVEQVRAHLFTASLLGLGSPGVKIGLRVRLHPLYNPGILDFDLVLELASPLAFNKYIQVCLPLAIQKFPVGRKCMIS  
 GWGNTQEGNATKPELLQKASGIIDQKTCISLVNFSLTDRMICAGFLEGVKVDSCQGGGLACEEAPGVFLAGIVS  
 WIGICAQVKKPGVYTRITRLKGMILEIMSSQPLFMSPPSTTRMLATTSPRTTAGLTVPGATPSRPTPGAASRVTGQPA  
 NSTLSAVSTTARGOTPFDPDAEATHTQLPDCGLAPAAALTRIVGGSAARGWEWPQVSLWLRREHRCGALVAER  
 WLLSAAHCFDVGDPKQWAAFLTPFSGAEGQLERVARIYKHPFYNLTYLTDYDVALLELAGPVRRLVRPICLPEP  
 APRPDGTTRCVITGWGSGVREGGSMARQLQKAAVRLLEQTCRRFPYQVSISSMLCAGFPQGGVDSCSGDAGPLA  
 CREPSGRWLTGVTWSGYCGGRPHFPGVYTRVAAVRGWIGQHIQE

>SGP#521\_SEQID\_98

MARSLILPQILLLSLALETAGEEAQGDKIIDGAPCARGSHPWQVALLSGNQLHCGGVLVNERWWLTAACHCKMNEYTV  
 HLGSDTLGDRRAQRIKASKSFRHPGYSTQTHVNDMLVLKNSQARLSSMVKKRLPSPRCEPPGTTCVSGWGTTS  
 PDVTFPSDLMCVDVKLISPODCTKVYKQDLENSMLCAGIPDSKKNACNGDSGGPLVCRGTLQGLVSWGTFPCGQPN  
 DPGVYVTVQVCKFTKWINDTMKKHR

>SGP#530\_1\_SEQID\_99

VSTVCGGPKVVGKIYGGRDAAAGQWPWQASLLYWGSHLCGAVLIDSCWLVSSTHCFLNKSQAPKNYQVLLGNILY  
 HQTQHTQKMSVHRIHTHPDEFKLHPFGSDIAMLQLHLPMMFTSYVPCVLPSPDMQLPSNVSCWITGWGMLTEDHKRV  
 QLSPPFYLGEGKVGIIENTLNTLYGQRTAKARPKLCTRRCCVGGYFSTGKSICKGDSGGPLVCYLPASAWVLVGLAS  
 WGLDCRHPAYPSIFTRVTFINWIDEIMRLTPLSDPALAPH

>SGP#520\_SEQID\_100

MLLAVLILLPLPSSWFAHGHPLYTRLPPSALQVFTLLGAETVLGRNLDVYCEGPCERRPSTANVTRAHRIVGGSA  
 APPGAWPWLVRQLGGQPLCGGVLVAASWWLTAACHFVGCGRSTRSAPNELLWTVTLAEGSRGEQAEVEPVNIRLPH  
 PKFDPRTHNDLALVOLWTPVSPGGSARPVCLPQEPQEPAGTACIAGWGAFLFEDGPEAEAVREARVPLLSTDTCR  
 RLDPGRLRPSTMLCAGVLGGVDSQGGGGLTCESEPGRPREVLFGVTSWGDGCGEPKPGVYTRVAVFKDWL  
 QEOMSAASSRSREPELLAWDPPELQADAARLCAFYARLCPGSGQCARLARHQQCLOQRRRRCELRSALTLLGL

FIG. 20

LRNAQELLGPRRLRRLAPALPAPALRESPLHPARELRHLHSGSRAAGTRFPKRRPEPRGEANGCPCGLEPLRQKLA  
ALQGAHAWILQVPSEHLAMNFHEVLADLSKTLTGLFRAWVRAGLGRHVAFSGLVGLEPATLARSLPRLLVQALQA  
FRVAALAEPEGEPMWMDV/GQGPGLERKGGHPLNPQVPPARQP

>SGP455\_SEQID\_101

MSPDIALYLKHKVKFNAVQPIQLPDSDDKVEPGLILSSGWGKISKTSEYSNVLELMPIMDDRACNTVLKSMNLP  
PLRMTLACGPDWGMADACQDGGSPVLCRRGGIWLAGITSWAGCAGGSVPVRNNHVKASLGIFSKVSELMDF  
ITQNLFTGLDRGQPLSKVGSRYITKALSSVEYNGSQRDKILIKFTSLDMEKQVGDHYYSLRSSGVLFSKVCCKIL  
PSPLLAETSEAMVPFVSDITEDSGSGFELTVTAVOKSEAGSGCSLALVEEGTNHSAKYPDLYPSNTRCHWFICAPEK  
HIKLTTFEDAVKFPSPNICYDAVYVGDSEKHKLAKLGMLTITSFSSNMVTIVFKSDGNRLQGFKARFTILPSESIN  
KFEKPLPQNNPVTYKAILHDVCGIPFPQWLRRRIAGGEEACPHCWQVQVGLRFLGDYQCGGAINPVWILTAAH  
CVQLKNLPSLWTIAGDHDRLNKESTEQVRRAKHIVHEDNTLSYSDIALQLSPLSEYNSWRVPCLPHSAEPLFSS  
EICAVTGWGSIASLSNVSSLDGGLARLQIQVHVLEREVECEITYSAHPGITEKMICAGFAASGEKDFCQDGS  
GPLVCRHENGPFVLYGIWSWAGCQVWPKGVFARMIFLDWIOKINGKLFNSVWIKTITSFRVGLGTVSCCSEAELE  
KPRGFPTPRYLLDYGRLECSWLRVSASSMAKFTIEYLSLLGSPVCQDSVLJIYEERHSKRKTAGGLHGRRLYSMT  
FMSPGPLVRVTHALVRGAFGISYVILKVLGPKDSKITRLSQSSNREHLVPCEDVLLTKPEGIMQIPRNSHRTTMGCQW  
RLVAPLNHIQLNIINPFMKPTTFVCHGHLRVYEGFGGKKGKLGRLMLMSTELSWFLSQFSTKTKTTASCGETAVSMKMMY  
TSIFLALQNTCYHALPHEVWLRK

>SGP507\_2\_SEQID\_102

MKYVYFGLVLAGTFFADSSVQKEDPAPYLVLYLKSHPNCPVGVLIKPSWWLAPAHCYLNLKVMNLGNFKSRVRDGT  
QTINPIQIVRYWVYSHSAPQDDMLIKAKPAMLNPKVQPLTATNVRPGLVCLSLGSDWSQENSLGWLEPPGHLT  
LHRGPAIPDWQRHNSHEQGRHDLRQNLNLEAPVMSDRECKTEQEGKSHRNSLCVKFVKVSRIFGEVAVATVICKDL  
QGEIVGHFMGGDVGYITNVYKYSWIENTAKDK

>SGP559\_SEQID\_103

MGENDPVPEAPESFRSLFGLDDLKISVPAPDADAVAAQILSLPLKFFPIIVIGIALLAIGLIGHFDCSGKYRCRSF  
KCIELIARCDGVSDCKGEDEYRCVRVGGQNAVQLVFTAASWTKMCSDDWKGHYANVACAQLGFPFYSVSSDLNRVS  
SLEGGQFREEFVSIDHLLPDDKV'TALHHVYVREGCAGHVWTLQCTACGHRRGYSSRIVGGNMSLLSQWPPWQASLQ  
FQGYHLCGSGVITPLWIITAAHCVYDLYLPKSWITQVGLVSLLDNAPSHLVKIVYHSKYKPKRLGNDIALMKLAGPLT  
FNEMIQVCLPNSSENFDPGKVCWTSWGTGATEDGAGDASPVNHAAPVPLISNKNHRDVGGIISPSMLCAGYLTG  
GVSDSCGGGGLVCCQERRLLWKLVGATSGIGCAEVNKPGVYTRVTSFLDWIHEQMERDLKT



>SGPr567 1 SEQID 104

CAGDLRGRDRSCQDGGPLVCEQNNRWYLAGVTSWGGCGQRNKPQGVYTKVTEVPWYKMESEVYFRKS  
 MRLMSKPLTSAHHAPCLPMHQGTQTSFNLCETWITGEGKTRTDKTSFLELVQNVLDFKCKNDYLVYSDYTPRMM  
 PMQVQSLFHGTHTCGGTILDAQWVLTAACHQVITREKVLGWKVAQVTSNHLQLPPEAAIEIINSNYTPDEEDYDIAL  
 KPWQKQZCQLGFSESAHRTEVAHRDFANFSILRYNSTQIESLHRECEPQSQYISLQCSHCGLRAMTGRVGGALASDSKW  
 PQAQSPQAQSPAQSPAQSPALASLSRSSGRSSAKRSASVTTSPTRVLYLRATPGVPIRSSPASCASPAQATRAATRE  
 SPSPVQWQGHGTGIRYKEQRESCKHACVRCDGVVDCGLKDELQGRDWDKSLTKIYSGSSHQWLPCISNNWNDYS  
 MERDSDHGNASPARTPSAGASPAQSPAQSPAQSPAQSPAQSPAGTPPGRASPAQSPAQSPAGTPPGGRASPGRAS

>SGPr479 1 SEQID 105

MAAPASVMGPLGPSALGILLLLLVAPPRVAAVLRHPENQGISLTGSVACGRPSMEGKILGVVPAPERKWPWPQVSV  
HYAGLHVCGGSIINEYWLSSAACHFHRDKNIKYDMYVGLVNLRVAGNHTQWYEVNVRVLHPTYEMYHPIGGDVALVQ  
KTRIVFSESVLPVCLATPEVNLTSANCWATGWGLSKOGETSDELQVQLPILEPWCHLLYGHMSYIMPDMLCAGD  
LNAKTVCEGDGSGPLVCFENRSRWLQIGIVSGRCSNPLYPGVYASVSFYFSKWICDNIETITPTAQAPAPALSPALGPT  
SVLMLAMLAGWSVL

SGPr489 1 SEQID 106

MSLKMILSRNKLILLGVFERGKSATLSLPKAPSCGQSLVKVQPNWYFNIFSRILGGSQVEKGSYPWQVLSLKQKQKH  
CGGSIYSPNQWVITAAGHCANRNIVSTLNVTAEGYLSQTDQEQLTLTVIHPHFSTKRPMDYDIALLKMAQAFQGH  
VGPICLPBREFEAGFICTAGWRLTEGGVLSQDQEVNLTPIITWEECAALLTKRPISYKGTFLTKTPDGGRRDA  
CGDGSGLMCRINKGAGWDSWEAQVGSLSRSPSLGNKVRCLTNNFFKLAGCGTWCSEQDVIVSGA  
QGLHPESILHLIYESKQRCWVTLVPEEMHVLTSFHLDDVESHCHSYLSYLEDPRKFCGSEJPSLSILGNSNLR  
KFVSDATDYAAGFNLTAKALKPNYIPGCSYLVTLFEEGLIQSLNYPENYSKAMCDWIFQAKSHLKLFSQSLIEEES  
DCTSDCTSYVTVHSDVERKEIARLCGYDVPTPLVSPSSIMLISFHSDENGTCRGFOANVSFIPKAVYPDLNISSEDESMFL  
T

SGPr465 1 SEQID 107

WWPWQASLYLGGHCAGALDSNWSAAHCFQRCIFPRAPLSTNPSDYRILLGYDQSHPTSEHSKQMTVNKIMV  
 ADAYNELHRMGSDITLLQLHHVVESSHILPACLPPTTWLAPDSSCWISGWGWTEDEVLPFPFQLQEAEEVGMDN  
 VCGSFFQPYQPGQSSDYTHEDMLCAGDLTGKACRYNSRGPLVCPNGTWFMLGSLSSWSDCCSPVGRVFT  
 RLPLYFNWISQKKRESTPPDPALAPQETPPALDSMTSQGVIVHKPGLCAALLAHMFLLLLILLGLSL

FIG. 2P

>SGP424\_1\_SEQID\_108  
 MDKENS DVSAAPADLKISNISVQVSAQKKLPVRRPPLPGRRLPLPGRPPQRPQIGAKPKKQSKKKVPFVWVQNKIL  
 FTVFLFIAMVITLLWYISKTESKDAFYAGFMFRITNIEFLPEYRQKESREFLSVRTVQQVINLVYTTSAFSKFEQS  
 VADVSSNNKGGLLVHFVWMPRAKHIFCEDCAALXDSIQTSINRTSVGSLQGLAVDMDSVLNGDCWFLFK  
 KKRKENGAVSTDKGCSQFYAEHLSLHYPLEISAASGRLMCHFKLVAIVGYLRLSIXSIEADNCVTDLSLTIYDLSLPIR  
 SSILYRICEPTRTLMFSVSTNNMLVTFKSPHRRLSGIRAYFEIPEKQCNELVKDITGEGKISSPYPSYPKPK  
 CTWKFQTSLSLGLAFKYNYSITKSMKGCHEHGWMEINEHMYCGSYMCDHQTFRVPSPLVHIQLQCSSLSDKPLLA  
 EYGSYNISQPCVPYSGFRSSGLCPQAQRCDGVNDCFDESDELFCVSPQACNTSSFRQHGPLICDGRDCENGRD  
 EQNCTQISPCNNRTFKCGNDICFRKONAKCDGTVDGPGSDEEGCTCSRSSALHRIIGGTDLEGGWPWQVSLHF  
 VGSAYCGASVISREWLLSAAHCFHGNRLSDPTPTWTAHLGMVYQGNKAFVSPVRRVIVHEYYNSQTFEDYDIALQLSIA  
 WPETLKQLIQICIPPTQQRVRSGEKWCWTGWGRRHEADNKGSLLVQQAELVDQTLQCVSTYGIITSRLMCLCAGIMSG  
 KRDA CKGDSGGPLSCRRKSDGKWILTGISWSGHGCGRPNFPFVYTRVSNF/PWIHKYVPSLL

FIG. 20

>SGP422\_SEQID\_109  
 MTLNKKIDLFAGKGQWDLAPEAEMLPVMIAVLVLSLTVVAVTIGLLVHFLVFDQKKEYYHGSFKILDPPQINNFGQSN  
 TYQLKDLRETTENLVSLKMYLSFVCHSPPEEDGVKVDVIMFQFPSTEQRAVREKKIQSILNQKIRNLRALPINASSYQV  
 N/AMVKNGNVPGSGGAGEAPGLGAGPAWSPMSSSTGELTVQASCGKRVVPLNVNRIASGVIAKAAWPWQASLQY  
 DNIHQCGATLISNTWLVTAAHCFQYKNPHQWTVSFGTKINPLMKRNVRRRIIEKYSAAAREYDIAVWQVSSRVTF  
 DDIRQICLPEASASFQPNLTVHITGFALYYGGESQNDLREARVKIISDDVCKQCPQVYVYGNDIKPGMFCAGYMEGIVDAC  
 RGDSSGGLVTRDLKDTWYLGIVSWGDCGQKDKPGVYTAQVYYRNWIA SKTG

>SGP438\_SEQID\_110  
 MSLMLDQDPMEAYAEEGPGGIFRAEPGQDQHPISQVACWRSRRRGCAVLGALLAGAGVGSWLLVYLCPA  
 ASLTHPGTLDDEITLSCSEASAEALLPALPKTVSFRINSEDFLEAQVRDQPRWLLVCHEGWSPALGLQICWSLGH  
 RLTHHKGVNLTDKLNSQEFQALPRLGGFLEEAWQPRNCTSGVVSIRCECGARPLASRVGGQSVAPGRWP  
 WQASVALGFRHTCGGSLAPRWVWVTAACHMHSFRLARLSSWRVHAGLVSHSARPHQGLVERIPHPLYSAQNH  
 YDVALRLQTALNFSDTVGAVCLPAKEQHFPGGSRVWVGWGHTHPSHTYSSDMLQDVTVPVPLSTQLCNSSCVYSG  
 ALTPRMILCAGYLDGRADACQSDSGGLVCPDGDWTWLVGWSWRACAEFNHPGVYAKVAEFLDHIHDTAQDSLL

>SGP527\_1\_SEQID\_111  
MARHLLPLVLMVISPIPGAFQDSALSTQEEPEDLDCGRPEPSARIVGGSNAQPTWPMQVSLHHGGHICGGSLIA  
PSWLASAHCFMTNGLEPAEWSVLLGVHSQDGLPDGAHTRAVAIVPANYSQVELGADLALLRLASPASLGPVAV  
WPVCLPRASHRFLVHTACWATGWGDVQEAADPLPLWMLQEVELRLLEATCOCLYSQPGPFNLTLQILPGMLCAGY  
PEGRRDTCQDGGSGPLVCEEGRWFQAGITSFGCGGRNRNPVFTAVATYEAWIREQVMGSEPGPAFTQPQKT  
QSDQPREENCTIALPECGKAPRGAWPWEAQVMVPSRCPGALVSESWLAPLACFCLDPNSSDPPRDLDAW  
RVLLPSRPAERVARLVOHENSADNADLALLQLRTPNALSAASRVCPLPHEHYFLPGSRCLARWGRGEPALG  
PGALLEALLGGWWCHLYGROGAAVPLPGDPPHALCPAYQEEKEEVGSCWTHGPMWISHVTRGAYLEDQLAWDWG  
PDGEETETQCPHTEHGACGLRLAEAPGVGLWPWLAIEVHAGDRVCTGILLAPGWVLAATHCVRPSTTPYIEV  
YLGRAGASSLPQGHQVSRVISRLPQHLGLRPPLALLELSSRVEPSPSALPICLHPAGIPPGASCWVLGWKEPQDRVP  
VAAAVSILTQRICDCLYQGLPPGTLCVLYAEGQENRCESMTSAPLLCQMTEGSWILVGMVAVQGSRELFAAIGPEEAWI  
SQTVGEANFLPPSGSPHWPTGGSNLCPELAKASGSPHAYVYLLLLTLIIQS

>SGP542\_SEQID\_112  
AMGLGLRGWGRPLLTVA TALMLPVKPPAGSWGAIIGGHEVTPHRSRPMASVRFGGQHHCGGFLLRARVWVSAAH  
CFSHRDLRTGLVVLGAHVSTAEPQQVFGIDALTTHPDYHPMTHADIDICLLQLNGSAVLGPVAGLLRLPGRRARPT  
AGTRCRVAGWGFVSDFEELPPGLMEAKVRVLDPDVCNSSWKGHLLTLMCTRSGDSHRRGFCSADSGGPLVCRNR  
AHGLVSFSGLWCGDKPTDVTYQVSAFVAWIMDVVRRSSPQPGPLGTTRPPGEAA

>SGP551\_SEQID\_113  
MPVAEAPQVAGGQDGGDEAEPEGMFKACEDSKRKARGYLRVLPLVLLALVLSAGVLLWYFLGYKAEVMVS  
QVYSGSLRVLRHFSQDLTRRESSAFRSETAKAQKMLKELITSTRLGTYNSSSVYFEGEGPLTCFFWFILQIPEHRL  
MLSPVQALLVEELLSVNSSAAPPYRAEYEVDPGEPLVEASVKDIAALNSTLGCYRYSYVGGQVLRLLKGPDLHAS  
SCLWHLQGPDKMLKLRLWTLAECDRLAMYDVAGPLEKRLITSYVGCSSRQEPVVEVLASGAIMAVWKKGLHSYV  
DPFVLSVPWFQACEVNLTLNRLDSQGLSTPYFPSYSPQTHCSWHLTPSLDYGLALWFDAYVALRQKYDLPC  
TQGWQTIQNRRLCGLRLQPYAERIPVATAGITINFTSQISLTGPGVRVHYGLYNOSDPCPGEFLLCSVNGLCVAPCDG  
VKDCPNGLDERNCVCRATFOCKEDSTCISLPKVCDGQDCLNGSDEEQCEQVPCGTFITQCEDRSCVKKPNPQC  
DGRPDGSDGDEEHCDGLQGSSRIVGGAVSSEGEWPMQASLQVRGRHICGGALADRWVITAAHCFQEDSMAS  
TVLWTVFLGKWQNSRWPGEVSKVSRLLLHPYHEEDSHDYDVALQLDHPVRSAAVRPVCPLPARSHFFEPGLHC  
WITGWGALREGGPNISLQKVDVQIPQDLCSSEAYRYQVTPRMLCAGYRKGKKKDACQCGDGGPLVCKALSGRWFLA  
GLVSWGLCGGRPNYFGVYTRITGVISWIIQQVVT

FIG. 2R

>SGPr451\_SEQID\_114  
 DLPPSCSPASKMRGLLSVALLFVGSSHLYSDHYSPSGRHLRGPSPPEPAASSQQAQAEAVRKRLRRREGGAHAKDCG  
 TAPLKDVLLQSGRIIGGTEAQAQAWPWVWSLQIKYGRVLVHCGGTLVRERWWTAAHCTKDTSDPLMWTAVIGTNNIH  
 GRYPHTKKIKIAIHPNFILESVNDIALFHLKAVRYNDYIQICLPFDVFOILDGNTKCFISGWGRTKEEGNATNIIQD  
 AEVHYISREMCNRSERYGGIIPNTSFCAGDEDAFDTCRGDSGGPLMCYLPYKRFVFMGITSYGHGCGRRRGFPYVY  
 IGPsfYQKWLTehffHASTQGILtINILRGQIIALCFVILLATT

>SGPr452\_1\_SEQID\_115  
 SPQPRTPDCRLQASLEALATLAPQPSDWLCFADLGWFEADGAAHSMGLGSSLKWAWAKPSGMPVPENDLVGIVG  
 GHNAPGKWPWQVSLRVSYHWSWAHICGGSLHPQWVLTAAHCFWKDTPDSYRIHAGDVLYYGGRGLLNVSR  
 IVHPNYVTAGLGADVALLQLPGSPLSPESLPPPYRLQOASVQVLENAYCEQPYRNASGHTGDRQLDDMLCAGSEG  
 RDSCYGDSSGGPLVCLRLGSRWRLVGWSWGYGCTLRDFPGVTHVQIYVWLILQVQGEPL

>SGPr504\_SEQID\_116  
 IIGGHEVTPHSRPMASVRFGGQHCGGFLRLRARWVWSAAQCFSH

>SGPr469\_SEQID\_117  
 GDSGGPLVCELNGTWVQVGVSWGIGCGRKGYGVVTEVSFYKKWI

>SGPr400\_SEQID\_118  
 MAGEQVTANVSRYPGQKTMSPFEKTELLSYRASLLAVVTHRSNNNSRGRAFESQVLPDLTAGDAADPPiPLPGGAAL  
 LKSGPFRWQGVKTKGEEGDRDTGTAGYAFtLLLLGISGEPPEWVCGRPVSSGLGASVGQWPWQVSIQGL  
 IHVCSDTLISEEWLTVAlCFPLPHDPFOANTSSAJAVELPSPVSPVWLLICLPsSEVYLKKNITTSWWTGWYGTGI  
 FQYIKRSYTLKELVPLIDLQTCGDHYQNEILLHGVELIASEAMICSKLPVGMQDQCTVRIHPHSGTfHRCPLCPQ

FIG. 2S